

THURSTON COUNTY SHORELINE MASTER PROGRAM UPDATE Inventory and Characterization Report

Final Draft – June 30, 2013

APPENDIX B: INVENTORY

Introduction

Thurston County is currently updating its Shoreline Master Program (SMP). As a part of this update, the County initiated its Shoreline Inventory process in November 2007. The Shoreline Inventory was conducted according to the County's SMP Grant Proposal and the provisions in Washington Administrative Code (WAC) 173-26-201(3)(c). The purpose of the Shoreline Inventory was to identify the baseline of available information on which to base the Analysis and Characterization (document to which this appendix is attached).

The Inventory presented here, primarily in matrix form, is the result of an initial collection/collation of information, review on the part of the County and its Scientific Technical Advisory Council (STAG), and subsequent revision. The following Inventory is representative of identified (and dismissed) information sources following those reviews. Subsequent to the inventory review, and over the course of the Analysis and Characterization process, additional geospatial data has been provided by the Thurston County Geodata Center, and the Thurston County Planning Department. Those data are identified in Appendix C, but have not been specifically incorporated into this Inventory.

During the Inventory process, a thorough review of existing information was conducted. General sources for information included:

- Thurston County's document library (hard copy and digital);
- Thurston County's geodata library (map products and GIS data, including County versions of other State geodata resources);
- Publically available geodata (various on-line mapping programs); and
- Other publically available documents, reports, and information pertinent to Thurston County (digital and hardcopy).

During the review, each information source was evaluated to determine whether it included information pertinent to Thurston County shorelines. Sources with relevant information were further reviewed to determine source, availability/location, format, spatial scale(s) of information, as well as pertinent WRIA(s) and basin(s). The source was also assessed in terms of which required Inventory element(s) it addressed.

Sources were dismissed from further review for a number of reasons, including but not limited to: not addressing shorelines or shoreline processes, outdated information, and/or information duplicated elsewhere. Sources dismissed from review were noted and maintained in the Inventory table for documentation and review purposes (see Table 2 of this Appendix and the Inventory Matrix).

Two tables precede the Inventory Matrix and are intended to act as legends and provide summary information for users of that document. Table 1 provides the legend for the Ecology required element column of the Inventory Matrix. It also serves to expand upon the basic element by provided the text description for each element as described in Thurston County's SMP Grant Proposal, and supporting information based on cross-references between the required elements described in WAC (173-26-201(3)(c) and related pertinent WAC sections (as shown). Table 2 provides the data sources reviewed during the Inventory. It is based

upon the format of the complete Inventory Matrix, which follows the Tables, and includes a complete author entry, versus an abbreviated entry. The complete Inventory Matrix uses an abbreviated entry for space efficiencies.

Finally, for each WRIA and basin, specific sources for each basin are listed, with a brief summary of relevant information from each report.

Table 1. Ecology required inventory elements (legend for Inventory matrix column 2).

Element Number¹	Element key words	Thurston Ecology Grant Text (modified from WAC 173-23-201 (3) c)	Related Information (WAC 173-26-201 (3) d (i) C)	Related Information (WAC 173-26-221 (2) e)
1	Land-use, transportation, utility, water oriented uses	Shoreline and adjacent land use patterns and transportation and utility facilities, including the extent of existing structures, impervious surfaces, vegetation and shoreline modifications in shoreline jurisdiction.	n/a	Upland conditions, docks, and bulkheads.
2	Critical areas	Location and boundaries of critical areas, including wetlands, aquifer recharge areas, fish and wildlife conservation areas, geologically hazardous areas, frequently flooded areas.	Habitat for native aquatic and shoreline dependent birds, invertebrates, mammals; amphibians and anadromous and resident native fish.	All kelp beds, eelgrass beds, spawning and holding areas for forage fish, shellfish beds, mudflats, intertidal habitats with vascular plants.
3	Potential for ecological restoration	Degraded areas and sites with potential for ecological restoration.	Hyporheic functions: removing excessive nutrients and toxic compounds.	Improving water quality.
4	Harbors, toxic or hazardous clean-up sites	Areas of special interest, such as priority habitats, rapidly developing waterfronts, previously identified toxic or hazardous material clean-up sites, or eroding shorelines.	Shoreline vegetation: removing excessive nutrients and toxic compounds.	Terrestrial and aquatic vegetation.
5	Regulations	Conditions and regulations in shorelands and adjacent areas that affect shorelines, such as surface water management and land use regulations.	n/a	n/a
6	Public Access	Existing and potential shoreline public access sites, including public rights-of-way and utility corridors. The inventory will include descriptions of recorded public access easements, their prescribed use, maintenance and terms.	n/a	Level of human activity in such areas (critical saltwater habitats) and level of recreation types.
7	CMZ and flood plains	General location of channel migration zones and floodplains.	n/a	n/a
8	Gaps in existing information ²	n/a	n/a	n/a
9	Aerial Photographs	Historical aerial photographs documenting past conditions to assist in preparing an analysis of cumulative impacts of development.	n/a	n/a
10	Archaeological or historic resources	Archaeological or historic resources in shoreline jurisdiction.	n/a	n/a
11	Shorelines of Statewide Significance ³	Location of shorelines of statewide significance.	n/a	n/a

¹ Based on numerical reference from WAC 173-26-201 (3) c (changed from roman to arabic numerals).

² Not included in Thurston County's Ecology Grant Proposal, but element included under the WAC.

³ Not included in WAC, but included in the Thurston's Ecology Grant Proposal.

Table 2. Inventoried data sources reviewed during the Shoreline Inventory. See Appendix C for additional information on Thurston County geospatial data sources.

Doc #	Source	Author	Author Abbr.	Date	Dismissed
1	Wetlands and Stream Corridors, Phase 1 Report	Thurston Regional Planning Council	TRPC	1986	yes
2	Shoreline Public Access Planning Handbook	Thurston Regional Planning Council	TRPC	1993	no
3	Green Cove Creek Comprehensive Drainage Basin Plan	Thurston County and City of Olympia	TC and CO	1998	no
4	Nisqually Plan: Sub-Area Land Use and Zoning	Thurston County Planning Department	TCPD	1992	no
6	Summit Lake Sub-Area Plan	Thurston Regional Planning Council	TRPC	1977	no
7	Totten-Little-Skookum Inlet Watershed Action Plan	Thurston County Planning Department and Mason County Planning Department	TCPD and MCPD	1989	no
8	Woodard Bay Natural Resources Conservation Area: Preliminary Reconnaissance Report	Thurston Regional Planning Council	TRPC	1988	no
9	Eld Inlet Watershed Action Plan	Thurston Regional Planning Council	TRPC	1989	no
10	Henderson Inlet Watershed Action Plan	Thurston County Planning Department	TCPD	1989	no
11	Management Options For Groundwater Protection	Thurston County Planning Department	TCPD	1990	yes
12	An Assessment of Water-Related Reports for Thurston County, Washington	Thurston Regional Planning Council	TRPC	1985	no
13	Black Lake/Littlerock/Delphi Sub-Area Plan	Thurston Regional Planning Council	TRPC	1981	no
14	Impervious Surface Reduction Study - Draft Report	City of Olympia Public Works Department Water Resources Program	COPWDWRP	1994	no
15	Thurston County Cultural Resources Inventory	Stevenson and Costantini	n/a	1985	no
16	Percival Creek Corridor Plan Volume 2: Upper Reach	Thurston Regional Planning Council	TRPC	1986	no
17	Woodland and Woodard Creek Comprehensive Drainage Basin Plan	Thurston County Department of Water and Waste Management, Storm and Surface Water Utility	TCDWWMSSWU	1995	no
18	WRIA 13 Watershed Assessment	Thurston County	TC	2004	no
19	Salmon Creek Comprehensive Drainage Basin Plan; Phase II: Alternatives Analysis & Recommendations	Thurston County Department of Water and Waste Management, Storm and Surface Water Utility	TCDWWMSSWU	2004	no
20	Salmon Creek Drainage Basin Conceptual Hydrologic Model	Pacific GroundWater Group, Seattle	PGWG	2001	no

Doc #	Source	Author	Author Abbr.	Date	Dismissed
21	Percival Creek Comprehensive Drainage Basin Plan	City of Olympia Public Works, City of Tumwater, Thurston County	COPW, CT, TC	1993	no
22	McAllister/Eaton Creek Comprehensive Drainage Basin Plan	Thurston County Department of Water and Waste Management, Storm and Surface Water Utility	TCDWWMSSWU	1994	no
23	Indian-Moxlie Creek - Comprehensive Drainage Basin Plan	City of Olympia Public Works and Thurston County Public Works	COPW and TCPW	1993	yes
24	Shoreline Master Program for Thurston Region	Thurston Regional Planning Council	TRPC	1990	no
25	Chambers/Ward/Hewitt/Comprehensive Drainage Basin Plan	Thurston County Storm and Surface Water Program	TCSSWP	1995	no
26	(WRIA 13 Planning) Thurston Shorelines Reference Documents combined entry for collection of misc. docs	Thurston County Department of Water and Waste Management	TCDWWM	2004	no
27	(WRIA 13 Planning) WRIA 13 Watershed Plan Revised Draft	Thurston County	TC	2004	no
28	(WRIA 13 Planning) Deschutes Watershed Plan (Highlights)	Thurston Regional Planning Council	TRPC	2004	yes
29	(WRIA 13 Planning) Mitigating Instream Flow Impacts of Proposed Water Withdrawals (presentation)	Thurston Regional Planning Council	TRPC	2003	yes
30	(WRIA 13 Planning) WRIA 13 Water Rights Mapping & Assessment Project	Thurston Regional Planning Council	TRPC	2002	no
31	(WRIA 13 Planning) 2001 Deschutes Groundwater Inflow Survey	Thurston County Department of Social Services Environmental Health Division and Thurston County Department of Water and Waste Management	TCDPHSSEHD and TCDWWM	2002	yes
32	(WRIA 13 Planning) WRIA 13 Initial Assessment - Henderson Inlet Watershed Revised Draft	Thurston County Department of Water and Waste Management	TCDWWM	2001	no
33	Salmon and Steelhead Limiting Factors, WRIA 11	Kerwin	n/a	1999	no
34	Salmon Habitat Limiting Factors, WRIA 13	Haring and Konovsky	n/a	1999	no
35	Salmonid Habitat Limiting Factors, WRIA 14	Kuttel	n/a	2002	no
36	Salmon and Steelhead Limiting Factors, WRIAS 22 and 23	Smith and Wenger	n/a	2001	no
37	Henderson Inlet Watershed Characterization Report	Thurston County Geodata Center and Thurston County Department of Water and Waste Management	TCGDC and TCWWM	2007	no

Doc #	Source	Author	Author Abbr.	Date	Dismissed
38	Nisqually River Level 1 Watershed Assessment (WRIA 11)	Watershed Professionals Network, LLC, Envirovisions, GeoEngineers	WPN, Envirovisions, GeoEngineers	2002	no
39	Watershed Management Plan: Final Unapproved Draft	Plateau Technical Communication Services	n/a	2006	yes
40	Chehalis Basin Watershed Management Plan	Grays Harbor County	n/a	2004	yes
41	Detailed Summary of Chehalis Basin Level 1 Assessment	Tetrattech/KCM and Triangle Associates	n/a	2002	no
42	Chehalis Basin Level 1 Assessment	Envirovisions, WPN, and SAIC	n/a	2000	no
43	Thurston County Flood Hazard Management Plan	Thurston Regional Planning Council	TRPC	1999	no
44	Annual Report on Progress Toward Implementing Recommendations of the Thurston County Flood Hazard Management Plan	Thurston County	TC	2007	no
45	Henderson Inlet and Nisqually Reach Shellfish Protection Districts Implementation Work Plan	Thurston County	TC	2005	no
46	WDFW Priority Habitats and Species Data	Washington Department of Fish and Wildlife	WDFW	n/a	no
47	DNR ShoreZone Data	Department of Natural Resources	DNR	n/a	no
48	Thurston County Critical Areas maps	Thurston County	TC	n/a	no
49	Thurston County Surface Water Information	Thurston County	TC	n/a	no
50	Ecology 303(d) list mapper and 2012 Washington Water Quality Assessment	Ecology	n/a	2012	no
51	Ecology Digital Coastal Mapper	Ecology	n/a	n/a	no
52	RCO (formerly IAC) boat launch mapper	Office of the Interagency Committee	IAC	n/a	no
53	WDFW Salmon Scape mapper	Washington Department of Fish and Wildlife	WDFW	n/a	no
54	StreamNet mapper	Pacific States Marine Fisheries Commission	PSMFC	n/a	no
55	USFWS National Wetlands Inventory mapper	United States Fish and Wildlife Service	USFWS	n/a	no
56	GoogleEarth mapper (dates vary, not documented)	Google	n/a	n/a	no
57	WDAHP WISAARD mapper	Washington Department of Archaeology and Historic Preservation	WDAHP	n/a	no
58	USFWS CH Mapper	United States Fish and Wildlife Service	USFWS	n/a	no
59	USFWS Western Washington ESA/CH listing information	United States Fish and Wildlife Service	USFWS	n/a	no
60	NMFS ESA/CH listings for Puget Sound, inc. Salmonids	National Marine Fisheries Service	NMFS	n/a	no

Doc #	Source	Author	Author Abbr.	Date	Dismissed
61	Bulkheading in Thurston County: Impacts on Forage Fish Spawning Habitat	Herrera Environmental and Thurston Regional Planning Council	n/a	2005	yes
62	Estuarine Flow in the South Basin of Puget Sound and its Effects on Near-Bottom Dissolved Oxygen	Ecology	n/a	2007	yes
63	Changes and Trends in Puget Sound Sediments: Results of the Puget Sound Ambient Monitoring Program, 1989-2000	Ecology	n/a	2005	no
64	Henderson Inlet Watershed Fecal Coliform Bacteria, Dissolved Oxygen, pH, and Temperature Total Maximum Daily Load Study	Ecology	n/a	2006	no
65	Tributaries to Totten, Eld, and Little Skookum Inlets - Fecal Coliform Bacteria and Temperature Total Maximum Daily Load: Water Quality Improvement Report	Ecology	n/a	2006	no
66	Henderson Inlet Watershed Fecal Coliform Bacteria, Dissolved Oxygen, and pH Total Maximum Daily Load: Water Quality Improvement Report Implementation Strategy	Ecology	n/a	2006	no
67	Budd Inlet Sediments- Sediments Investigation Update	Ecology	n/a	2007	no
68	South Puget Sound Verification of 303(d) Listings for Chemical Contaminants in Fish and Shellfish	Ecology	n/a	2006	no
69	Condition of Coastal Waters of Washington State, 2000-2003: A Statistical Summary	Ecology	n/a	2007	yes
70	Nisqually River Basin Fecal Coliform Bacteria and Dissolved Oxygen Total Maximum Daily Load: Water Quality Implementation Plan	Ecology	n/a	2007	no
71	WDAHP map data	Washington Department of Archaeology and Historic Preservation	WDAHP	n/a	no
72	Wild Fish Conservancy: Puget Sound Water Type Assessment 2005-2007	Wild Fish Conservancy: Northwest	WFC:NW	2005-7	no
73	Chinook and Bull Trout Recovery Approach for the South Puget Sound Nearshore	South Puget Sound Salmon Recovery Group	SPSSRG	2005	no
74	Marine Shoreline Sediment Survey and Assessment - Thurston County, Washington	Herrera Environmental and Thurston Regional Planning Council	n/a	2005	no

Doc #	Source	Author	Author Abbr.	Date	Dismissed
75	Updating Flood Maps Efficiently Using Existing Hydraulic Models, Very-High-Accuracy Elevation Data, and a Geographic Information System— A Pilot Study on the Nisqually River, Washington	USGS-Jones, Haluska and Kresch	n/a	2001	no
76	Draft Yelm Creek Inventory and Analysis Report	United States Department of Agriculture - Natural Resources Conservation Service	USDA-NRCS	2000	no
77	Final Deschutes River Watershed Recovery Plan: Effects of Watershed Habitat Conditions on Coho Salmon Production	Anchor - for Squaxin Island Tribe	n/a	2008	no
78	Nisqually National Wildlife Refuge: Final Comprehensive Conservation Plan and Environmental Impact Statement	United States Fish and Wildlife Service	USFWS	2004	no
79	Natural Hazards Mitigation Plan for the Thurston Region.	Thurston Regional Planning Council	TRPC	2003	no
80	Chambers Basin Moratorium Evaluation Report	City of Olympia	CO	2007	no
81	Integrated Streambank Protection Guidelines	Cramer, T. & K Bates	n/a	2003	no
82	Wetlands in Washington State - volume 2: Guidance for protecting and managing wetlands	Granger, T. et al	n/a	2005	no
83	Washington state department of Health - Office of Shellfish and Water Protection. Annual Growing Area Review of Eld Inlet.	Melvin, D. J.	n/a	2007	no
84	Washington state department of Health - Office of Shellfish and Water Protection. Annual Growing Area Review of Henderson Inlet.	Melvin, D. J.	n/a	2007	no
85	Washington state department of Health - Office of Shellfish and Water Protection. Annual Growing Area Review of Nisqually Reach	Melvin, D. J.	n/a	2013	no
86	Washington State Department of Health - Office of Shellfish and Water Protection. Annual Growing area Review of Totten Inlet	Melvin, D. J.	n/a	2013	no
87	Tracking Development on Streams and Wetlands.	Thurston Regional Planning Council	TRPC	2001	no
88	Washington State Marine Water Quality, 1998 through 2000	Newton, J. A. et al	n/a	2002	no
89	Coastal landsliding on Puget Sound: A review of landslide occurring between 1996 and 1999	Shipman, H.	n/a	2001	no

Doc #	Source	Author	Author Abbr.	Date	Dismissed
90	Assessment of Surface Water/ Groundwater Interactions and associated nutrient fluxes in the Deschutes River and Percival Creek Watersheds, Thurston county	Sinclair, K.	n/a	2007	no
91	Protecting Aquatic Ecosystems: A guide for Puget Sound Planners to Understand Watershed Processes.	Stanley, S, J. Brown and S. Grigsby	n/a	2005	no
92	Thurston County Streamflow and Temperature monitoring data	Thurston County Department of Waste Water Management	TCDWWM	2008	no
93	Thurston County Water Resources Monitoring Report 2010/2011 Water Year	Thurston County Department of Social Services Environmental Health Division and Thurston County Department of Waste Water Management	TCDPHSSEHD and TCDWWM	2012	no
94	WAC 173-18: SMA-Streams and Rivers Constituting Shorelines of the State	Washington Administrative Code	WAC		no
95	WAC 173-20: SMA- Lakes Constituting Shorelines of the State	Washington Administrative Code	WAC		no
96	Salmonid Screening, Habitat Enhancement and Restoration Division-Lands and restoration services program	Ecology	n/a	1997	no
97	Atlas of Fecal Coliform Pollution in the Puget Sound: Year 2005 - A report for the Puget Sound Assessment and Monitoring Program	Washington Department of Health	WDOH	2007	no
98	South Puget Sound Water Quality Study	Albertson et al.	n/a	2002	no
99	Budd Inlet Scientific Study Final Report	Aura Nova et al.	n/a	1998	no
100	A study of rates and factors influencing channel erosion along the Deschutes River, Washington with application to Watershed Management Planning.	Collins, B.D. for Squaxin Island Tribe Natural Resources Planning	n/a	1994	no
101	Hydrology and quality of ground water in Northern Thurston County.	Drost, BW, G.L. Turney, N.P. Dion, and M.A. Jones	n/a	1998	no
102	The Geomorphology of Puget Sound Beaches	Findlayson, D.	n/a	2006	no
103	Deschutes River Mainstem Bank Erosion: 1991 - 2003	Raines, M.	n/a	2007	no
104	The Profile	Thurston Regional Planning Council	TRPC	2007	no
105	Totten and Eld Inlets Watershed Characterization Report	Thurston County GeoData Center and Resource Stewardship	TCGDRS	2009	no

Doc #	Source	Author	Author Abbr.	Date	Dismissed
106	Protecting Aquatic Ecosystems by Understanding Watershed Processes: A Guide for Planners. Ecology Publication #05-06-027	Stephen Stanley, Jenny Brown, Susan Grigsby, and Tom Hruby.	Stanley et al.	2008	no
107	Puget Sound Watershed Characterization Project: Description of Methods, Models, and Analysis, Draft for Peer Review.	Stephen Stanley, Susan Grigsby, Tom Hruby, and Patricia Olson	Stanley et al.	2010	no
108	Nisqually Chinook Recovery Plan	Nisqually Chinook Recovery Team	Nisqually Chinook Recovery Team	2001	no
109	Nisqually Watershed Salmon Recovery Three-year Work Program	Nisqually Watershed Lead Entity	Nisqually Lead Entity	2011	no
110	South Puget Sound Salmon Recovery Three-year Work Program	South Puget Sound Lead Entity	South Puget Sound Lead Entity	2010	no
111	Historical Change and Impairment of Puget Sound Shorelines	Simenstad, C., Ramirez, M., Burke, J., Logsdon, M., Shipman, H., Tanner, C., Toft, J., Craig, B., Davis, C., Fung, J., Bloch, P., Fresh, K., Campbell, S.I, Myers, D., Iverson, E., Bailey A., Schlenger, P., Kiblinger, C., Myre, P., Gertsel, W.I., and MacLennan, A.	Simenstad, C., et al.	2011	no
112	Strategic Needs Assessment Report. Prepared in support of the Puget Sound Nearshore Ecosystem Restoration Project	Schlenger, P., MacLennan, A., Iverson, E., Fresh, K., Tanner, C., Lyons, B., Todd, S., Carman, R., Myers, D., Campbell, S., Wick, A.	Schlenger et al.	2009	no
113	Juvenile Salmonid Nearshore Project Selection Tool	Squaxin Island Tribe	n/a	2009	no
114	Juvenile Salmonid Approach to Prioritization for Restoration and Conservation of Budd Inlet	Squaxin Island Tribe	n/a	2010	no
115	Budd Inlet Restoration and Conservation Planning	Squaxin Island Tribe	n/a	2010	no
116	Final Critical Habitat for Bull Trout Puget Sound Unit: 2 http://www.fws.gov/pacific/bulltrout/finalcrithab/index.cfm?unit=2	U.S. Fish and Wildlife Service	USFWS	2010	no
117	Critical Habitat Portal http://crithab.fws.gov/	U.S. Fish and Wildlife Service	USFWS	Accessed: Oct. 2010	no
118	Protecting Nearshore Habitats and Functions in Puget Sound	EnviroVision, Herrera Environmental, and Aquatic Habitat Guidelines Program	EnviroVision, et al.	Revised 2010	no

Doc #	Source	Author	Author Abbr.	Date	Dismissed
119	Management Measures for Protecting and Restoring the Puget Sound Nearshore. Puget Sound Nearshore Ecosystem Restoration Project Report No. 2009-01	Clancy, M., Logan, I., Lowe, J., Johannessen, J., MacLennan, A., Van Cleve, F.B., Dillon, J., Lyons, B., Carman, R., Cereghino, P., Barnard, B., Tanner, C., Myers, D., Clark, R., White, J., Simenstad, C., Gilmer, M., and Chin, N.	Clancy, et al.	2009	no
120	Land Use Planning for Salmon, Steelhead, and Trout. Washington Department of Fish and Wildlife.	Knight, K.	Knight, K.	2009	no
121	Over-water Structures: Freshwater Issues	Carrasquero, J., Herrera Environmental Consultants	Carrasquero, J.	2001	no
122	Salmon Habitat Protection and Restoration Plan for the Water Resource Inventory Area 14, Kennedy-Goldsborough	Mason County Conservation District	Mason County CD	2004	no
123	Salmon Habitat Protection and Restoration Plan for the Water Resource Inventory Area 13, Deschutes.	Thurston County Conservation District Lead Entity	Thurston County CD	2005	no
124	Tributaries to Totten, Eld, and Little Skookum Inlets: Fecal Coliform Bacteria and Temperature Total Maximum Daily Load Water Quality Implementation Plan.	Washington State Department of Ecology	Ecology	2007	no
125	Deschutes River, Capitol Lake, and Budd Inlet Temperature, Fecal Coliform Bacteria, Dissolved Oxygen, pH, and Fine Sediment Total Maximum Daily Load Technical Report: Water Quality Study Findings.	Washington State Department of Ecology	Ecology	2012	no
126	Lake Lawrence Integrated Aquatic Vegetation Management Plan	EnviroVision Corp, TetraTech ISG	EnviroVision	2004	no
127	Nisqually Reach Aquatic Reserve Management Plan	Washington State Department of Natural Resources	DNR	2011	no
128	Puget Sound Characterization – Volume 1: The Water Resource Assessments (Water Flow and Water Quality)	Stephen Stanley, Susan Grigsby, Derek Booth, David Hartley, Richard Horner, Tom Hruby, Jennifer Thomas, Pam Bissonnette, Robert Fuerstenberg, Joan Lee, Patricia Olson, and George Wilhere	Stanley et al.	2012	no

Table 3. Inventory Matrix

Doc #	Ecy Req. Item	Source	Author	Date	Scale	Narrative	Hard Copy Maps	GIS Data	WRIA	Basin Name
1	2	Wetlands and Stream Corridors, Phase 1 Report	TRPC	1986	watershed	yes	yes	no	11, 13, 14, 23	<i>Not continuing to use document</i>
2	6	Shoreline Public Access Planning Handbook	TRPC	1993	county	yes	yes	no	11, 13, 14, 23	all
2	1	Shoreline Adjacent Lands Analysis	TRPC	1982	reach	yes	yes	no	11, 13, 14, 23	all
2	5	Shoreline Adjacent Lands Analysis	TRPC	1982	reach	yes	yes	no	11, 13, 14, 23	all
3	4	Green Cove Creek Comprehensive Drainage Basin Plan	TC and CO	1998	reach (mouth only)	yes	yes	no	13	Eld Inlet
4	5	Nisqually Plan: Sub-Area Land Use and Zoning	TCPD	1992	basin and reach	yes	yes	no	11, 13	McAllister Creek, Nisqually, McAllister Creek, McAllister Creek; Nisqually Reach
4	2	Nisqually Plan: Sub-Area Land Use and Zoning	TCPD	1992	basin and reach	yes	yes	no	11, 13	McAllister Creek, Nisqually, McAllister Creek, McAllister Creek; Nisqually Reach
4	1	Nisqually Plan: Sub-Area Land Use and Zoning	TCPD	1992	basin and reach	yes	yes	no	11, 13	McAllister Creek, Nisqually, McAllister Creek, McAllister Creek; Nisqually Reach
5	1	McAllister Springs Geologically Sensitive Areas: Resource Protection Report (Draft)	TCDPHSSEH and TCOWQRM	1990	basin	yes	yes	no	11, 13	McAllister Creek, McAllister Creek, McAllister Creek; Chambers, Spurgeon Creek
5	2	McAllister Springs Geologically Sensitive Areas: Resource Protection Report (Draft)	TCDPHSSEH and TCOWQRM	1990	basin	yes	yes	no	11, 13	McAllister Creek, McAllister Creek, McAllister Creek; Chambers, Spurgeon Creek
6	1	Summit Lake Sub-Area Plan	TRPC	1977	basin	yes	yes	no	14	Schneider Creek, Kennedy Creek, Summitt Lake
6	4	Summit Lake Sub-Area Plan	TRPC	1977	basin	yes	yes	no	14	Schneider Creek, Kennedy Creek, Summitt Lake
6	5	Summit Lake Sub-Area Plan	TRPC	1977	basin	yes	yes	no	14	Schneider Creek, Kennedy Creek, Summitt Lake

Doc #	Ecy Req. Item	Source	Author	Date	Scale	Narrative	Hard Copy Maps	GIS Data	WRIA	Basin Name
7	4	Totten-Little-Skookum Inlet Watershed Action Plan	TCPD and MCPD	1989	watershed	yes	yes	no	14	Totten Inlet, Burns, Schneider Creek, Kennedy Creek, Summitt Lake
7	1	Totten-Little-Skookum Inlet Watershed Action Plan	TCPD and MCPD	1989	watershed	yes	yes	no	14	Totten Inlet, Burns, Schneider Creek, Kennedy Creek, Summitt Lake
7	5	Totten-Little-Skookum Inlet Watershed Action Plan	TCPD and MCPD	1989	watershed	yes	yes	no	14	Totten Inlet, Burns, Schneider Creek, Kennedy Creek, Summitt Lake
8	4	Woodard Bay Natural Resources Conservation Area: Preliminary Reconnaissance Report	TRPC	1988	basin, some reach	yes	yes	no	13	Henderson
8	1	Woodard Bay Natural Resources Conservation Area: Preliminary Reconnaissance Report	TRPC	1988	basin, some reach	yes	yes	no	13	Henderson
8	10	Woodard Bay Natural Resources Conservation Area: Preliminary Reconnaissance Report	TRPC	1988	basin, some reach	yes	yes	no	13	Henderson
9	1	Eld Inlet Watershed Action Plan	TRPC	1989	basin, some reach (maps)	yes	yes	no	13, 14	Eld Inlet, McLane Creek; Squaxin Passage, Eld Inlet
9	4	Eld Inlet Watershed Action Plan	TRPC	1989	basin, some reach (maps)	yes	yes	no	13, 14	Eld Inlet, McLane Creek; Squaxin Passage, Eld Inlet
9	5	Eld Inlet Watershed Action Plan	TRPC	1989	basin, some reach (maps)	yes	yes	no	13, 14	Eld Inlet, McLane Creek; Squaxin Passage, Eld Inlet
10	1	Henderson Inlet Watershed Action Plan	TCPD	1989	basin and reach	yes	yes	no	13	Henderson, Dana Passage, Woodard, Woodland
10	2	Henderson Inlet Watershed Action Plan	TCPD	1989	basin and reach	yes	yes	no	13	Henderson, Dana Passage, Woodard, Woodland

Doc #	Ecy Req. Item	Source	Author	Date	Scale	Narrative	Hard Copy Maps	GIS Data	WRIA	Basin Name
10	4	Henderson Inlet Watershed Action Plan	TCPD	1989	basin and reach	yes	yes	no	13	Henderson, Dana Passage, Woodard, Woodland
10	5	Henderson Inlet Watershed Action Plan	TCPD	1989	basin and reach	yes	yes	no	13	Henderson, Dana Passage, Woodard, Woodland
11	5	Management Options For Groundwater Protection	TCPD	1990	county (no specific information)	yes	yes	no	11, 13, 14, 23	<i>Not continuing to use document</i>
12	5	An Assessment of Water-Related Reports for Thurston County, Washington	TRPC	1985	watershed narrative (county-wide)	yes	yes	no	11, 13, 14, 23	all
13	1	Black Lake/Littlerock/Delphi Sub-Area Plan	TRPC	1981	basin and reach	yes	yes	no	13, 14, 23	Percival Creek, Deschutes River, McLane Creek; Kennedy Creek; Dempsey Creek, Salmon Creek, Black River, Beaver Creek, Bloom Ditch, Waddell Creek, Allen Creek, Black Lake, Scatter Creek
13	4	Black Lake/Littlerock/Delphi Sub-Area Plan	TRPC	1981	basin and reach	yes	yes	no	13, 14, 23	Percival Creek, Deschutes River, McLane Creek; Kennedy Creek; Dempsey Creek, Salmon Creek, Black River, Beaver Creek, Bloom Ditch, Waddell Creek, Allen Creek, Black Lake, Scatter Creek

Doc #	Ecy Req. Item	Source	Author	Date	Scale	Narrative	Hard Copy Maps	GIS Data	WRIA	Basin Name
13	5	Black Lake/Littlerock/Delphi Sub-Area Plan	TRPC	1981	basin and reach	yes	yes	no	13, 14, 23	Percival Creek, Deschutes River, McLane Creek; Kennedy Creek; Dempsey Creek, Salmon Creek, Black River, Beaver Creek, Bloom Ditch, Waddell Creek, Allen Creek, Black Lake, Scatter Creek
14	1	Impervious Surface Reduction Study - Draft Report	COPWDWRP	1994	basin	yes	yes	no	13	West Bay, East Bay, Capitol Lake, Percival Creek, Deschutes River, Chambers; Woodard, Woodland; Nisqually Reach
14	5	Impervious Surface Reduction Study - Draft Report	COPWDWRP	1994	basin	yes	yes	no	13	West Bay, East Bay, Capitol Lake, Percival Creek, Deschutes River, Chambers; Woodard, Woodland; Nisqually Reach
15	10	Thurston County Cultural Resources Inventory	Stevenson and Costantini	1985	site-specific (county-wide w/ exceptions)	yes	no	no	11, 13, 14, 23	all
16	1	Percival Creek Corridor Plan Volume 2: Upper Reach	TRPC	1986	reach	yes	yes	no	13	Percival Creek
16	2	Percival Creek Corridor Plan Volume 2: Upper Reach	TRPC	1986	reach	yes	yes	no	13	Percival Creek
16	4	Percival Creek Corridor Plan Volume 2: Upper Reach	TRPC	1986	reach	yes	yes	no	13	Percival Creek
16	5	Percival Creek Corridor Plan Volume 2: Upper Reach	TRPC	1986	reach	yes	yes	no	13	Percival Creek
17	1	Woodland and Woodard Creek Comprehensive Drainage Basin Plan	TCDWWMSS WU	1995	basin and reach	yes	yes	no	13	Woodard, Woodland

Doc #	Ecy Req. Item	Source	Author	Date	Scale	Narrative	Hard Copy Maps	GIS Data	WRIA	Basin Name
17	2	Woodland and Woodard Creek Comprehensive Drainage Basin Plan	TCDWWMSS WU	1995	basin and reach	yes	yes	no	13	Woodard, Woodland
17	3	Woodland and Woodard Creek Comprehensive Drainage Basin Plan	TCDWWMSS WU	1995	basin and reach	yes	yes	no	13	Woodard, Woodland
17	4	Woodland and Woodard Creek Comprehensive Drainage Basin Plan	TCDWWMSS WU	1995	basin and reach	yes	yes	no	13	Woodard, Woodland
17	5	Woodland and Woodard Creek Comprehensive Drainage Basin Plan	TCDWWMSS WU	1995	basin and reach	yes	yes	no	13	Woodard, Woodland
18	3	WRIA 13 Watershed Assessment	TC	2004	watershed, basin, and reach	yes	yes	no	13	all in WRIA 13
18	5	WRIA 13 Watershed Assessment	TC	2004	watershed, basin, and reach	yes	yes	no	13	all in WRIA 13
19	1	Salmon Creek Comprehensive Drainage Basin Plan; Phase II: Alternatives Analysis & Recommendations	TCDWWMSS WU	2004	basin and reach	yes	yes	no	23	Salmon Creek
19	2	Salmon Creek Comprehensive Drainage Basin Plan; Phase II: Alternatives Analysis & Recommendations	TCDWWMSS WU	2004	basin and reach	yes	yes	no	23	Salmon Creek
19	4	Salmon Creek Comprehensive Drainage Basin Plan; Phase II: Alternatives Analysis & Recommendations	TCDWWMSS WU	2004	basin	yes	yes	no	23	Salmon Creek
19	5	Salmon Creek Comprehensive Drainage Basin Plan; Phase II: Alternatives Analysis & Recommendations	TCDWWMSS WU	2004	basin and reach	yes	yes	no	23	Salmon Creek
19	7	Salmon Creek Comprehensive Drainage Basin Plan; Phase II: Alternatives Analysis & Recommendations	TCDWWMSS WU	2004	basin and reach	yes	yes	no	23	Salmon Creek

Doc #	Ecy Req. Item	Source	Author	Date	Scale	Narrative	Hard Copy Maps	GIS Data	WRIA	Basin Name
20	7	Salmon Creek Drainage Basin Conceptual Hydrologic Model	PGWG	2001	basin	yes	yes	no	23	Salmon Creek
21	1	Percival Creek Comprehensive Drainage Basin Plan	COPW, CT, TC	1993	basin and reach (mostly maps)	yes	yes	no	13	Percival Creek
21	2	Percival Creek Comprehensive Drainage Basin Plan	COPW, CT, TC	1993	basin and reach (mostly maps)	yes	yes	no	13	Percival Creek
21	3	Percival Creek Comprehensive Drainage Basin Plan	COPW, CT, TC	1993	basin and reach (mostly maps)	yes	yes	no	13	Percival Creek
21	5	Percival Creek Comprehensive Drainage Basin Plan	COPW, CT, TC	1993	basin and reach (mostly maps)	yes	yes	no	13	Percival Creek
21	7	Percival Creek Comprehensive Drainage Basin Plan	COPW, CT, TC	1993	basin and reach (mostly maps)	yes	yes	no	13	Percival Creek
22	1	McAllister/Eaton Creek Comprehensive Drainage Basin Plan	TCDWWMSS WU	1994	basin, some reach (maps)	yes	yes	no	11	McAllister Creek
22	2	McAllister/Eaton Creek Comprehensive Drainage Basin Plan	TCDWWMSS WU	1994	basin, some reach (maps)	yes	yes	no	11	McAllister Creek
22	3	McAllister/Eaton Creek Comprehensive Drainage Basin Plan	TCDWWMSS WU	1994	basin, some reach (maps)	yes	yes	no	11	McAllister Creek
22	5	McAllister/Eaton Creek Comprehensive Drainage Basin Plan	TCDWWMSS WU	1994	basin, some reach (maps)	yes	yes	no	11	McAllister Creek
22	7	McAllister/Eaton Creek Comprehensive Drainage Basin Plan	TCDWWMSS WU	1994	basin, some reach (maps)	yes	yes	no	11	McAllister Creek
23	-	Indian-Moxlie Creek - Comprehensive Drainage Basin Plan	COPW and TCPW	1993	DO NOT INCLUDE - NOT A COUNTY SMP BASIN	-	-	-	13	<i>Not continuing to use document</i>
24	5	Shoreline Master Program for Thurston Region	TRPC	1990	county (some watershed, basin, reach, and site-specific)	yes	yes	no	11, 13, 14, 23	all
25	1	Chambers/Ward/Hewitt /Comprehensive Drainage Basin Plan	TCSSWP	1995	basin and reach	yes	yes	no	13	Chambers

Doc #	Ecy Req. Item	Source	Author	Date	Scale	Narrative	Hard Copy Maps	GIS Data	WRIA	Basin Name
25	2	Chambers/Ward/Hewitt /Comprehensive Drainage Basin Plan	TCSSWP	1995	basin and reach	yes	yes	no	13	Chambers
25	3	Chambers/Ward/Hewitt /Comprehensive Drainage Basin Plan	TCSSWP	1995	basin and reach	yes	yes	no	13	Chambers
25	4	Chambers/Ward/Hewitt /Comprehensive Drainage Basin Plan	TCSSWP	1995	basin and reach	yes	yes	no	13	Chambers
25	5	Chambers/Ward/Hewitt /Comprehensive Drainage Basin Plan	TCSSWP	1995	basin and reach	yes	yes	no	13	Chambers
25	6	Chambers/Ward/Hewitt /Comprehensive Drainage Basin Plan	TCSSWP	1995	basin and reach	yes	yes	no	13	Chambers
26	-	(WRIA 13 Planning) Thurston Shorelines Reference Documents combined entry for collection of misc. docs	TCDWWM	2004	-	-	-	no	13	all in WRIA 13
27	4	(WRIA 13 Planning) WRIA 13 Watershed Plan Revised Draft	TC	2004	watershed	yes	no	no	13	all in WRIA 13
27	3	(WRIA 13 Planning) WRIA 13 Watershed Plan Revised Draft	TC	2004	watershed	yes	no	no	13	all in WRIA 13
27	5	(WRIA 13 Planning) WRIA 13 Watershed Plan Revised Draft	TC	2004	watershed	yes	no	no	13	all in WRIA 13
28	-	(WRIA 13 Planning) Deschutes Watershed Plan (Highlights)	TRPC	2004	watershed	yes	no	no	13	<i>Not continuing to use document</i>
29	-	(WRIA 13 Planning) Mitigating Instream Flow Impacts of Proposed Water Withdrawals (presentation)	TRPC	2003	watershed	yes	no	no	13	<i>Not continuing to use document</i>
30	1	(WRIA 13 Planning) WRIA 13 Water Rights Mapping & Assessment Project	TRPC	2002	watershed	yes	no	no	13	all in WRIA 13
31	-	(WRIA 13 Planning) 2001 Deschutes Groundwater Inflow Survey	TCDPHSSEHD and TCDWWM	2002	watershed	yes	yes	no	13	<i>Not continuing to use document</i>

Doc #	Ecy Req. Item	Source	Author	Date	Scale	Narrative	Hard Copy Maps	GIS Data	WRIA	Basin Name
32	1	(WRIA 13 Planning) WRIA 13 Initial Assessment - Henderson Inlet Watershed Revised Draft	TCDWWM	2001	basin and reach	yes	yes	no	13	Henderson, Dana Passage, Woodard, Woodland
32	4	(WRIA 13 Planning) WRIA 13 Initial Assessment - Henderson Inlet Watershed Revised Draft	TCDWWM	2001	basin and reach	yes	yes	no	13	Henderson, Dana Passage, Woodard, Woodland
32	3	(WRIA 13 Planning) WRIA 13 Initial Assessment - Henderson Inlet Watershed Revised Draft	TCDWWM	2001	basin and reach	yes	yes	no	13	Henderson, Dana Passage, Woodard, Woodland
33	3	Salmon and Steelhead Limiting Factors, WRIA 11	Kerwin	1999	watershed and basin, some reach (action recommendations)	yes	yes	no	11	all in WRIA 11
33	4	Salmon and Steelhead Limiting Factors, WRIA 11	Kerwin	1999	watershed and basin, some reach	yes	yes	no	11	all in WRIA 11
34	4	Salmon Habitat Limiting Factors, WRIA 13	Haring and Konovsky	1999	watershed and basin, some reach	yes	yes	no	13	all in WRIA 13
34	2	Salmon Habitat Limiting Factors, WRIA 13	Haring and Konovsky	1999	watershed and basin, some reach	yes	yes	no	13	all in WRIA 13
34	7	Salmon Habitat Limiting Factors, WRIA 13	Haring and Konovsky	1999	watershed and basin, some reach	yes	yes	no	13	all in WRIA 13
34	1	Salmon Habitat Limiting Factors, WRIA 13	Haring and Konovsky	1999	watershed and basin, some reach	yes	yes	no	13	all in WRIA 13
34	3	Salmon Habitat Limiting Factors, WRIA 13	Haring and Konovsky	1999	watershed and basin, some reach	yes	yes	no	13	all in WRIA 13
35	3	Salmonid Habitat Limiting Factors, WRIA 14	Kuttel	2002	watershed and basin, some reach (marine only for Eld)	yes	yes	no	14	Squaxin Passage, Eld Inlet, Totten Inlet, Burns, Schneider Creek, Kennedy Creek, Summit Lake

Doc #	Ecy Req. Item	Source	Author	Date	Scale	Narrative	Hard Copy Maps	GIS Data	WRIA	Basin Name
35	4	Salmonid Habitat Limiting Factors, WRIA 14	Kuttel	2002	watershed and basin, some reach (marine only for Eld)	yes	yes	no	14	Squaxin Passage, Eld Inlet, Totten Inlet, Burns, Schneider Creek, Kennedy Creek, Summit Lake
36	3	Salmon and Steelhead Limiting Factors, WRIAS 22 and 23	Smith and Wenger	2001	watershed and basin, some reach - only WRIA 23 applies	yes	yes	no	23	all in WRIA 23
36	1	Salmon and Steelhead Limiting Factors, WRIAS 22 and 23	Smith and Wenger	2001	watershed and basin, some reach - only WRIA 23 applies	yes	yes	no	23	all in WRIA 23
36	4	Salmon and Steelhead Limiting Factors, WRIAS 22 and 23	Smith and Wenger	2001	watershed and basin, some reach - only WRIA 23 applies	yes	yes	no	23	all in WRIA 23
36	3	Salmon and Steelhead Limiting Factors, WRIAS 22 and 23	Smith and Wenger	2001	watershed and basin, some reach - only WRIA 23 applies	yes	yes	no	23	all in WRIA 23
37	4	Henderson Inlet Watershed Characterization Report	TCGDC and TCWWM	2007	basin, reach in maps only	yes	yes	yes	13	Henderson, Dana Passage, Woodard, Woodland
37	2	Henderson Inlet Watershed Characterization Report	TCGDC and TCWWM	2007	basin, reach in maps only	yes	yes	yes	13	Henderson, Dana Passage, Woodard, Woodland
37	3	Henderson Inlet Watershed Characterization Report	TCGDC and TCWWM	2007	basin, reach in maps only	yes	yes	yes	13	Henderson, Dana Passage, Woodard, Woodland
38	4	Nisqually River Level 1 Watershed Assessment (WRIA 11)	WPN, Envirovisions, GeoEngineers	2002	watershed, basin	yes	yes	no	11	McAllister Creek, Nisqually, McAllister Creek, McAllister Creek, Thompson Creek, Nisqually, Yelm Creek, McAllister Creek, Elbow Lake, Clear Lake, Bald Hill Lake

Doc #	Ecy Req. Item	Source	Author	Date	Scale	Narrative	Hard Copy Maps	GIS Data	WRIA	Basin Name
38	3	Nisqually River Level 1 Watershed Assessment (WRIA 11)	WPN, Envirovisions, GeoEngineers	2002	watershed, basin	yes	yes	no	11	McAllister Creek, Nisqually, McAllister Creek, McAllister Creek, Thompson Creek, Nisqually, Yelm Creek, McAllister Creek, Elbow Lake, Clear Lake, Bald Hill Lake
38	8	Nisqually River Level 1 Watershed Assessment (WRIA 11)	WPN, Envirovisions, GeoEngineers	2002	watershed, basin	yes	yes	no	11	McAllister Creek, Nisqually, McAllister Creek, McAllister Creek, Thompson Creek, Nisqually, Yelm Creek, McAllister Creek, Elbow Lake, Clear Lake, Bald Hill Lake
39	--	WRIA 14 Watershed Management Plan: Final Unapproved Draft	Plateau Technical Communication Services	2006	watershed, basin	yes	yes	no	14	<i>Not continuing to use document</i>
40	--	Chehalis Basin Watershed Management Plan	Grays Harbor County	2004	--	yes	yes	no	23	<i>Not continuing to use document</i>
41	1	Detailed Summary of Chehalis Basin Level 1 Assessment	Tetrattech/KCM and Triangle Associates	2002	watershed, basin	yes	yes	no	23	all in WRIA 23
41	4	Detailed Summary of Chehalis Basin Level 1 Assessment	Tetrattech/KCM and Triangle Associates	2002	watershed, basin	yes	yes	no	23	all in WRIA 23
42	--	Chehalis Basin Level 1 Assessment	Envirovisions, WPN, and SAIC	2000	watershed (basin-level does not apply to Thurston)	yes	yes	no	23	all in WRIA 23
43	5	Thurston County Flood Hazard Management Plan	TRPC	1999	watershed	yes	yes	no	11, 13, 14, 23	all

Doc #	Ecy Req. Item	Source	Author	Date	Scale	Narrative	Hard Copy Maps	GIS Data	WRIA	Basin Name
44	5	Annual Report on Progress Toward Implementing Recommendations of the Thurston County Flood Hazard Management Plan	TC	2007	county	yes	no	no	11, 13, 14, 23	all
45	5	Henderson Inlet and Nisqually Reach Shellfish Protection Districts Implementation Work Plan	TC	2005	basin	yes	no	no	13	Henderson, Nisqually Reach
46	4	WDFW Priority Habitats and Species Data	WDFW	n/a	reach	n/a	n/a	yes	11, 13, 14, 23	all
47	4	DNR ShoreZone Data	DNR	n/a	reach	n/a	n/a	yes	11, 13, 14	Totten Inlet, Burns, Pierre, Squaxin Passage, Eld Inlet (East), Eld Inlet (West), West Bay, East Bay, Dana Passage, Henderson, Nisqually Reach, McAllister Creek, Nisqually
48	2	Thurston County Critical Areas maps	TC	n/a	reach	n/a	n/a	yes	11, 13, 14, 23	all
49	3	Thurston County Surface Water Information	TC	n/a	varied	-	-	yes	11, 13, 14, 23	all
50	3	Ecology 303(d) list mapper and 2012 Washington Water Quality Assessment	Ecology	2012	reach	n/a	n/a	yes	11, 13, 14, 23	all
51	2	Ecology Digital Coastal Mapper	Ecology	n/a	reach	n/a	n/a	yes	11, 13, 14, 23	all
51	4	Ecology Digital Coastal Mapper	Ecology	n/a	reach	n/a	n/a	yes	11, 13, 14, 23	all
51	7	Ecology Digital Coastal Mapper	Ecology	n/a	reach	n/a	n/a	yes	11, 13, 14, 23	all
51	9	Ecology Digital Coastal Mapper	Ecology	n/a	reach	n/a	n/a	yes	11, 13, 14, 23	all
51	11	Ecology Digital Coastal Mapper	Ecology	n/a	reach	n/a	n/a	yes	11, 13, 14, 23	all
52	6	RCO (formerly IAC) boat launch mapper	IAC	n/a	reach	n/a	n/a	yes	11, 13, 14, 23	all

Doc #	Ecy Req. Item	Source	Author	Date	Scale	Narrative	Hard Copy Maps	GIS Data	WRIA	Basin Name
53	2	WDFW Salmon Scape mapper	WDFW	n/a	reach	n/a	n/a	yes	11, 13, 14, 23	all
54	2	StreamNet mapper	PSMFC	n/a	reach	n/a	n/a	yes	11, 13, 14, 23	all
55	2	USFWS National Wetlands Inventory mapper	USFWS	n/a	reach	n/a	n/a	yes	11, 13, 14, 23	all
56	9	GoogleEarth mapper (dates vary, not documented)	Google	n/a	reach	n/a	n/a	n/a	11, 13, 14, 23	all
57	10	WDAHP WISAARD mapper	WDAHP	n/a	reach	n/a	n/a	yes	11, 13, 14, 23	all
58	4	USFWS CH Mapper	USFWS	n/a	basin, some reach	n/a	n/a	yes	11, 13, 14, 23	all
59	4	USFWS Western Washington ESA/CH listing information	USFWS	n/a	watershed and basin	yes	yes	no	11, 13, 14, 23	all
60	4	NMFS ESA/CH listings for Puget Sound, inc. Salmonids	NMFS	n/a	watershed and basin	yes	yes	no	11, 13, 14, 23	all
61	1	Bulkheading in Thurston County: Impacts on Forage Fish Spawning Habitat	Herrera Environmental and TRPC	2005	county	yes	no	no	11, 13, 14, 23	<i>Not continuing to use document</i>
61	2	Bulkheading in Thurston County: Impacts on Forage Fish Spawning Habitat	Herrera Environmental and TRPC	2005	county	yes	no	no	11, 13, 14, 23	<i>Not continuing to use document</i>
62	3	Estuarine Flow in the South Basin of Puget Sound and its Effects on Near-Bottom Dissolved Oxygen	Ecology	2007	watershed and basin	yes	yes	no	13, 14	<i>Not continuing to use document</i>
63	3	Changes and Trends in Puget Sound Sediments: Results of the Puget Sound Ambient Monitoring Program, 1989-2000	Ecology	2005	basin	yes	no	no	13	West Bay, East Bay
64	3	Henderson Inlet Watershed Fecal Coliform Bacteria, Dissolved Oxygen, pH, and Temperature Total Maximum Daily Load Study	Ecology	2006	basin, some reach	yes	yes	no	13	Henderson, Woodard, Woodland

Doc #	Ecy Req. Item	Source	Author	Date	Scale	Narrative	Hard Copy Maps	GIS Data	WRIA	Basin Name
65	3	Tributaries to Totten, Eld, and Little Skookum Inlets - Fecal Coliform Bacteria and Temperature Total Maximum Daily Load: Water Quality Improvement Report	Ecology	2006	basin, some reach	yes	yes	no	13,14	Eld Inlet, McLane Creek; Eld Inlet, Totten Inlet, Burns, Schneider Creek, Kennedy Creek, Summit Lake
66	3	Henderson Inlet Watershed Fecal Coliform Bacteria, Dissolved Oxygen, and pH Total Maximum Daily Load: Water Quality Improvement Report Implementation Strategy	Ecology	2006	basin, some reach	yes	yes	no	13	Henderson, Woodard, Woodland
67	3	Budd Inlet Sediments-Sediments Investigation Update	Ecology	2007	reach	yes	yes	no	13	West Bay, East Bay, Capitol Lake
68	3	South Puget Sound Verification of 303(d) Listings for Chemical Contaminants in Fish and Shellfish	Ecology	2006	reach	yes	yes	no	13	Capitol Lake
69	-	Condition of Coastal Waters of Washington State, 2000-2003: A Statistical Summary	Ecology	2007	reach	yes	yes	no	11, 13, 14	<i>Not continuing to use document</i>
70	3	Nisqually River Basin Fecal Coliform Bacteria and Dissolved Oxygen Total Maximum Daily Load: Water Quality Implementation Plan	Ecology	2007	basin, some reach	yes	yes	no	11, 13	McAllister Creek; Nisqually Reach
71	10	WDAHP map data	WDAHP	n/a	reach	n/a	n/a	yes	11, 13, 14, 23	referenced for all; not provided in document based on DAHP and County guidance
72	2	Wild Fish Conservancy: Puget Sound Water Type Assessment 2005-2007	WFC:NW	2005-7	reach	n/a	n/a	yes	11, 13, 14, 23	all

Doc #	Ecy Req. Item	Source	Author	Date	Scale	Narrative	Hard Copy Maps	GIS Data	WRIA	Basin Name
73	2	Chinook and Bull Trout Recovery Approach for the South Puget Sound Nearshore	SPSSRG	2005	basin, some reach	yes	no	no	11, 13, 14	Totten, Squaxin Island, Eld Inlet, Eld Inlet, West Bay, East Bay, Dana Passage, Henderson, Nisqually Reach, McAllister Creek, Nisqually
74	1	Marine Shoreline Sediment Survey and Assessment - Thurston County, Washington	Herrera Environmental and TRPC	2005	reach	yes	yes	no	11, 13, 14	Totten, Squaxin Island, Eld Inlet, Eld Inlet, West Bay, Budd Bay, Dana Passage, Henderson, Nisqually Reach
74	2	Marine Shoreline Sediment Survey and Assessment - Thurston County, Washington	Herrera Environmental and TRPC	2005	reach	yes	yes	no	11, 13, 14	Totten Inlet, Burns, Pierre, Squaxin Passage, Eld Inlet (East), Eld Inlet (West), West Bay, East Bay, Dana Passage, Henderson, Nisqually Reach, McAllister Creek, Nisqually
74	3	Marine Shoreline Sediment Survey and Assessment - Thurston County, Washington	Herrera Environmental and TRPC	2005	reach	yes	yes	no	11, 13, 14	Totten Inlet, Burns, Pierre, Squaxin Passage, Eld Inlet (East), Eld Inlet (West), West Bay, East Bay, Dana Passage, Henderson, Nisqually Reach, McAllister Creek, Nisqually

Doc #	Ecy Req. Item	Source	Author	Date	Scale	Narrative	Hard Copy Maps	GIS Data	WRIA	Basin Name
75	7	Updating Flood Maps Efficiently Using Existing Hydraulic Models, Very-High-Accuracy Elevation Data, and a Geographic Information System— A Pilot Study on the Nisqually River, Washington	USGS-Jones, Haluska and Kresch	2001	basin, some reach	yes	yes	no	11	Nisqually
76	2	Draft Yelm Creek Inventory and Analysis Report	USDA-NRCS	2000	reach	yes	yes	no	11	Yelm Creek
76	7	Draft Yelm Creek Inventory and Analysis Report	USDA-NRCS	2000	reach	yes	yes	no	11	Yelm Creek
77	2	Final Deschutes River Watershed Recovery Plan: Effects of Watershed Habitat Conditions on Coho Salmon Production	Anchor - for Squaxin Island Tribe	2008	reach	yes	yes	no	13	Deschutes
78	2	Nisqually National Wildlife Refuge: Final Comprehensive Conservation Plan and Environmental Impact Statement	USFWS	2004	basin, some reach	yes	yes	no	11	Nisqually
78	3	Nisqually National Wildlife Refuge: Final Comprehensive Conservation Plan and Environmental Impact Statement	USFWS	2004	basin, some reach	yes	yes	no	11	Nisqually
78	6	Nisqually National Wildlife Refuge: Final Comprehensive Conservation Plan and Environmental Impact Statement	USFWS	2004	basin, some reach	yes	yes	no	11	Nisqually
78	10	Nisqually National Wildlife Refuge: Final Comprehensive Conservation Plan and Environmental Impact Statement	USFWS	2004	basin, some reach	yes	yes	no	11	Nisqually
79	2	Natural Hazards Mitigation Plan for the Thurston Region.	TRPC	2003	county, some basin	yes	yes	no	11, 13, 14, 23	all

Doc #	Ecy Req. Item	Source	Author	Date	Scale	Narrative	Hard Copy Maps	GIS Data	WRIA	Basin Name
80	1	Chambers Basin Moratorium Evaluation Report	City of Olympia	2007	basin	yes	yes	no	13	Chambers
81	2	Integrated Streambank Protection Guidelines	Cramer, T. & K Bates	2003	county	yes	yes	no	11, 13, 14, 23	all
82	2	Wetlands in Washington State - volume 2: Guidance for protecting and managing wetlands	Granger, T. et al	2005	county	yes	yes	no	11, 13, 14, 23	all
83	1	Washington state department of Health - Office of Shellfish and Water Protection. Annual Growing Area Review of Eld Inlet.	Melvin, D. J.	2007	basin	yes	yes	no	13,14	Eld Inlet, Eld Inlet, McLane Creek, Squaxin Passage
84	1	Washington state department of Health - Office of Shellfish and Water Protection. Annual Growing Area Review of Henderson Inlet.	Melvin, D. J.	2007	basin	yes	yes	no	13	Dana Passage, Henderson, Woodard, Woodland
85	1	Washington state department of Health - Office of Shellfish and Water Protection. Annual Growing Area Review of Nisqually Reach	Melvin, D. J.	2007	basin	yes	yes	no	13	Nisqually Reach
86	1	Washington State Department of Health - Office of Shellfish and Water Protection. Annual Growing area Review of Totten Inlet	Melvin, D. J.	2007	basin	yes	yes	no	14	Burns, Kennedy Creek, Schneider Creek, Summit Lake, Totten Inlet
87	1	Tracking Development on Streams and Wetlands.	TRPC	2001	county	yes	no	no	11, 13, 14, 23	all
87	2	Tracking Development on Streams and Wetlands.	TRPC	2001	county	yes	no	no	11, 13, 14, 23	all
88	3	Washington State Marine Water Quality, 1998 through 2000	Newton, J. A. et al	2002	basin	yes	no	no	13,14	West Bay, East Bay; Eld Inlet, Eld Inlet, McLane Creek, Squaxin Passage; Burns, Kennedy Creek, Schneider Creek, Summit Lake, Totten Inlet

Doc #	Ecy Req. Item	Source	Author	Date	Scale	Narrative	Hard Copy Maps	GIS Data	WRIA	Basin Name
89	2	coastal landsliding on Puget Sound: A review of landslide occurring between 1996 and 1999	Shipman, H.	2001	basin	yes	no	no	11, 13, 14, 23	all
90	1	Assessment of Surface Water/ Groundwater Interactions and associated nutrient fluxes in the Deschutes River and Percival Creek Watersheds, Thurston county	Sinclair, K.	2007	basin, watershed	yes	no	no	13	Deschutes, Percival
90	2	Assessment of Surface Water/ Groundwater Interactions and associated nutrient fluxes in the Deschutes River and Percival Creek Watersheds, Thurston county	Sinclair, K.	2007	basin, watershed	yes	no	no	13	Deschutes, Percival
91	2	Protecting Aquatic Ecosystems: A guide for Puget Sound Planners to Understand Watershed Processes.	Stanley, S, J. Brown and S. Grigsby	2005	watershed	yes	no	no	11, 13, 14, 23	all
92	2	Thurston county Streamflow and Temperature Monitoring data	WWM	2008	basin	no	no	no	11, 13, 14, 23	all
93	1	Thurston County Water Resources Monitoring Report 2010/2012	Thurston County Public Health and Social Services Dept, EH and WWM	2012	basin	yes	yes	no	11, 13, 14, 23	all
93	2	Thurston County Water Resources Monitoring Report 2010/2012	Thurston County Public Health and Social Services Dept, EH and WWM	2012	basin	yes	yes	no	11, 13, 14, 23	all
94	5	WAC 173-18: SMA-Streams and Rivers Constituting Shorelines of the State	--	--	basin	no	no	no	11, 13, 14, 23	all

Doc #	Ecy Req. Item	Source	Author	Date	Scale	Narrative	Hard Copy Maps	GIS Data	WRIA	Basin Name
95	5	WAC 173-20: SMA-Lakes Constituting Shorelines of the State	--	--	basin	no	no	no	11, 13, 14, 23	all
96	1	Salmonid Screening, Habitat Enhancement and Restoration Division-Lands and restoration services program	DOE	1997	county	yes	no	no	11, 13, 14, 23	all
97	1	Atlas of Fecal Coliform Pollution in the Puget Sound: Year 2005 - A report for the Puget Sound Assessment and Monitoring Program	DOH	2007	basin	no	yes	no	13,14	Dana Passage, Henderson, Woodard, Woodland; Nisqually Reach; Eld Inlet, Eld Inlet, McLane Creek, Squaxin Passage
97	3	Atlas of Fecal Coliform Pollution in the Puget Sound: Year 2005 - A report for the Puget Sound Assessment and Monitoring Program	DOH	2007	basin	no	yes	no	13,14	Dana Passage, Henderson, Woodard, Woodland; Nisqually Reach; Eld Inlet, Eld Inlet, McLane Creek, Squaxin Passage
97	4	Atlas of Fecal Coliform Pollution in the Puget Sound: Year 2005 - A report for the Puget Sound Assessment and Monitoring Program	DOH	2007	basin	no	yes	no	13,14	Dana Passage, Henderson, Woodard, Woodland; Nisqually Reach; Eld Inlet, Eld Inlet, McLane Creek, Squaxin Passage
98	NE*	South Puget Sound Water Quality Study	Albertson et al.	2002	NE*	NE*	NE*	NE*	NE*	NE*
99	NE*	Budd Inlet Scientific Study Final Report	Aura Nova et al.	1998	NE*	NE*	NE*	NE*	NE*	NE*
100	NE*	A study of rates and factors influencing channel erosion along the Deschutes River, Washington with application to Watershed Management Planning.	Collins, B.D. for Squaxin Island Tribe Natural Resources Planning	1994	NE*	NE*	NE*	NE*	NE*	NE*

Doc #	Ecy Req. Item	Source	Author	Date	Scale	Narrative	Hard Copy Maps	GIS Data	WRIA	Basin Name
101	NE*	Hydrology and quality of ground water in Northern Thurston County.	Drost, BW, G.L. Turney, N.P. Dion, and M.A. Jones	1998	NE*	NE*	NE*	NE*	NE*	NE*
102	NE*	The Geomorphology of Puget Sound Beaches	Findlayson, D.	2006	NE*	NE*	NE*	NE*	NE*	NE*
103	NE*	Deschutes River Mainstem Bank Erosion: 1991 - 2003	Raines, M.	2007	NE*	NE*	NE*	NE*	NE*	NE*
104	NE*	The Profile	TRPC	2007	NE*	NE*	NE*	NE*	NE*	NE*
105	1,3	Totten and Eld Inlets Watershed Characterization Report	TCGDRS	2009	no	yes	Yes	Yes	13, 14	Kennedy Creek, North Schneider, South Schneider, East Totten, Summit Lake, McLane Creek, West Eld, South Eld, North Eld, Perry Creek, Green Cove Creek, Mud Bay
106	1,3	Protecting Aquatic Ecosystems by Understanding Watershed Processes: A Guide for Planners. Ecology Publication #05-06-027	Stanley et al.	2008	no	Yes	No	Yes	All	All
107	1,3	Puget Sound Watershed Characterization Project: Description of Methods, Models, and Analysis. Draft for Peer Review. Ecology Publication 10-06-005.	Stanley et al.	2010	no	Yes	No	Yes	All	All
108	1,2,3	Nisqually Chinook Recovery Plan	Nisqually Chinook Recovery Team	2001	WRIA	Yes	No	No	11	All basins in the Nisqually WRIA
109	1,2,3	Nisqually Watershed Salmon Recovery Three-year work plan	Nisqually Lead Entity	2011	WRIA	Yes	No	No	11	All basins in the Nisqually WRIA

Doc #	Ecy Req. Item	Source	Author	Date	Scale	Narrative	Hard Copy Maps	GIS Data	WRIA	Basin Name
110	1,2,3	South Puget Sound Salmon Recovery Three-year Work Program	South Puget Sound Lead Entity	2010	WRIA	Yes	No	No	11	All basins in WRIsAs 13 and 14
111	3	Historical Change and Impairment of Puget Sound Shorelines	Simenstad, C, et al.	2009	South Puget Sound	Yes	Yes	Yes	11, 13, 14	Nearshore basins in WRIsAs 11, 13, 14
112	3	Strategic Needs Assessment Report. Prepared in support of the Puget Sound Nearshore Ecosystem Restoration Project	Schlenger et al.	2009	South Puget Sound	Yes	Yes	Yes	11, 13, 14	Nearshore basins in WRIsAs 11, 13, 14
113	3	Juvenile Salmonid Nearshore Project Selection Tool	Squaxin Island Tribe	2009	South Puget Sound	No	No	Yes	11, 13, 14	Nearshore basins in WRIsAs 11, 13, 14
114	3	Juvenile Salmonid Approach to Prioritization for Restoration and Conservation of Budd Inlet	Squaxin Island Tribe	2010	South Puget Sound	Yes	Yes	Yes	11, 13, 14	Nearshore basins in WRIsAs 11, 13, 14
115	3	Budd Inlet Restoration and Conservation Planning	Squaxin Island Tribe	2010	South Puget Sound	Yes	No	No	11, 13, 14	Nearshore basins in WRIsAs 11, 13, 14
116	2	Final Critical Habitat for Bull Trout Puget Sound Unit: 2 http://www.fws.gov/pacific/bulltrout/finalcriticalhab/index.cfm?unit=2	USFWS	2010	Puget Sound	No	No	Yes	11	Nisqually, McAllister
117	2	Critical Habitat Portal http://crithab.fws.gov/	USFWS	Accessed: 2010	Puget Sound	No	No	Yes	11, 13, 14, 23	Nisqually, McAllister, Alder Lake, Sherman, Black River, Mima Creek, Waddell Creek
118	3	Protecting Nearshore Habitats and Functions in Puget Sound	EnviroVision, et al.	Revised 2010	Puget Sound	Yes	No		11,13,14	Nearshore basins in WRIsAs 11, 13, 14
119	3	Management Measures for Protecting and Restoring the Puget Sound Nearshore. Puget Sound Nearshore Ecosystem Restoration Project Report No. 2009-01	Clancy, et al.	2009	Puget Sound	Yes	No	No	14, 13, 11	Nearshore basins in WRIsAs 11, 13, 14

Doc #	Ecy Req. Item	Source	Author	Date	Scale	Narrative	Hard Copy Maps	GIS Data	WRIA	Basin Name
120	3	Land Use Planning for Salmon, Steelhead, and Trout. Washington Department of Fish and Wildlife.	Knight, K.	2009	Puget Sound	Yes	No	No	All	All basins containing salmon, steelhead, and trout
121	3	Over-water Structures: Freshwater Issues	Carrasquero, J., Herrera Environmental Consultants	2001	Washington	Yes	No	No	All	All basins containing salmon
122	3	Salmon Habitat Protection and Restoration Plan for the Water Resource Inventory Area 14, Kennedy-Goldsborough.	Mason County CD	2004	WRIA	Yes	Yes	No	14	Kennedy, Schnieder
123	3	Salmon Habitat Protection and Restoration Plan for the Water Resource Inventory Area 13, Deschutes.	Thurston County CD	2005	WRIA	Yes	Yes	No	13	All basins containing salmon
124	3	Tributaries to Totten, Eld, and Little Skookum Inlets: Fecal Coliform Bacteria and Temperature Total Maximum Daily Load Water Quality Implementation Plan.	Ecology	2007	WRIA	Yes	Yes	No	14, 13	Burns, Schneider, Kennedy, Perry, McLane
125	3	Deschutes River, Capitol Lake, and Budd Inlet Temperature, Fecal Coliform Bacteria, Dissolved Oxygen, pH, and Fine Sediment Total Maximum Daily Load Technical Report: Water Quality Study Findings.	Ecology	2012	WRIA	Yes	Yes	No	13	All
126	3	Lake Lawrence Integrated Aquatic Vegetation Management Plan	EnviroVision	2004	waterbody	Yes	Yes	No	13	Lake Lawrence

Doc #	Ecy Req. Item	Source	Author	Date	Scale	Narrative	Hard Copy Maps	GIS Data	WRIA	Basin Name
127	3	Nisqually Reach Aquatic Reserve Management Plan	DNR	2011	waterbody	yes	yes	no	13, 11	Nisqually Reach, McAllister Creek, Nisqually basin
128	3	Puget Sound Characterization – Volume 1: The Water Resource Assessments (Water Flow and Water Quality)	Stanley et al.	2012	WRIA, subbasin	yes	no	yes	11, 13, 14	All

* NE indicates "Not Evaluted". This reference was cited in Chapter 3 with County-specific information (see Appendix E).

Available Resources, Studies, and Spatial Information per Basin

Available resources, studies, and spatial information are listed here organized by WRIA, and then by basin. Additional research, studies or spatial information regarding this basin may have been referenced for the creation of this document. Please reference the tables above.

WRIA 11

Alder Lake Basin

A USGS gauge located at the dam. USGS gauges provide real time data on parameters such as stream flow, reservoir, water-quality, meteorological, and groundwater sites. The website at which this data may be obtained is: <http://waterdata.usgs.gov/wa/nwis/rt>.

Rate of Urbanization and Forest Harvest in Thurston County 1985-2000. January 2002. TRPC. This report studies the decrease in forest cover as well as the increase in urban cover that occurred within Thurston County during the years of 1985-2000.

The Relationship of Land Cover to Total and Effective Impervious Area. June 2003. TRPC. This report uses remote sensing data to determine total and effective impervious surface area for the basins of Thurston County with additional focus on Green Cove Creek and the Woodland basins.

Bald Hill Lake Basin

Rate of Urbanization and Forest Harvest in Thurston County 1985-2000. January 2002. TRPC. This report studies the decrease in forest cover as well as the increase in urban cover that occurred within Thurston County during the years of 1985-2000.

The Relationship of Land Cover to Total and Effective Impervious Area. June 2003. TRPC. This report uses remote sensing data to determine total and effective impervious surface area for the basins of Thurston County with additional focus on Green Cove Creek and the Woodland basins.

Clear Lake Basin

A water quality sample site is located on Clear Lake. This water quality sample site provides 1996 data on trophic state indices and Secchi disk reading. The website at which this data may be obtained is: <http://www.geodata.org/swater/strm.asp?strm=NISCLL>.

Rate of Urbanization and Forest Harvest in Thurston County 1985-2000. January 2002. TRPC. This report studies the decrease in forest cover as well as the increase in urban cover that occurred within Thurston County during the years of 1985-2000.

The Relationship of Land Cover to Total and Effective Impervious Area. June 2003. TRPC. This report uses remote sensing data to determine total and effective impervious surface area for the basins of Thurston County with additional focus on Green Cove Creek and the Woodland basins.

Elbow Lake basin

Rate of Urbanization and Forest Harvest in Thurston County 1985-2000. January 2002. TRPC.

This report studies the decrease in forest cover as well as the increase in urban cover that occurred within Thurston County during the years of 1985-2000.

The Relationship of Land Cover to Total and Effective Impervious Area. June 2003. TRPC.

This report uses remote sensing data to determine total and effective impervious surface area for the basins of Thurston County with additional focus on Green Cove Creek and the Woodland basins.

McAllister Creek basin

Eaton Creek has a water quality sampling site and rain gauge. Further information regarding information gathered at this site can be obtained at

<http://www.geodata.org/swater/strm.asp?strm=NISEA0>

Juvenile Salmon Nearshore Project Selection Tool. 2009. Squaxin Island Tribe. This model does not contain a report, but contains spatial data. The model results show spatially which areas of the nearshore are beneficial to all juvenile salmonids, which areas are most limiting to all juvenile salmonids, and which areas should be considered for restoration and conservation.

The McAllister Creek basin is part of the Nisqually Shellfish protection district. The shellfish protection district was established due to a downgrade in 2000 from “conditionally approved” to “restricted” for the Puget Sound waters fed by this basin. As of 2007, the majority of the area adjacent to the McAllister basin was approved. However the Nisqually Reach area still contained some restricted as well as prohibited areas. Further information can be obtained at the following websites: <http://www.co.thurston.wa.us/shellfish/> and <http://www.doh.wa.gov/ehp/sf/Pubs/gareports/nisqually.pdf>

Henderson and Nisqually TMDL Study. February 2003. Debby Sargeant, Mindy Roberts, and Barb Carey, L.G., L.HG. This study summarizes historical data and findings for the basins and describes a TMDL evaluation project design.

McAllister/Eaton Creek Comprehensive Drainage Basin Plan. March 1994. Thurston County Department of Water and Waste Management, Storm and Surface Water Program (TCDWWM) generated this plan to provide residents and government entities with future surface water management plans. The plan provides basin characteristics, problem identification, management approaches as well as plan recommendations.

McAllister Springs Geologically Sensitive Area: Resource Protection Report, Draft. June 1990. Thurston County Health Department. Provides information on areas conditions, recharge areas, pollutant sources, and protection recommendations.

Nisqually National Wildlife Refuge: Final Comprehensive Conservation Plan and Environmental Impact Statement. 2004 USFWS. This report outlines the community vision and provides evaluation of four alternatives for future management of Nisqually National Wildlife Refuge.

Nisqually Reach Pollution Source Identification Task 5: DNA Typing Analysis Final Report. May 2004. Thurston County Public Health and Social Services department, Environmental Health Division. The purpose of the report was to discern pollutant source types at Nisqually Reach and along McAllister Creek with the ultimate objective of reducing the amount of fecal coliform bacteria entering the Nisqually Reach from McAllister Creek and nearshore areas.

Nisqually Sub-Area Land Use Plan and Zoning. November 1992. Thurston County Planning Department. This plan was designed to inform the Comprehensive Plan and assist planners with future zoning decisions. The plan provides good historical context. Zoning information may have been modified as a result of more recent reviews.

The Relationship of Land Cover to Total and Effective Impervious Area. June 2003. TRPC. This report uses remote sensing data to determine total and effective impervious surface area for the basins of Thurston County with additional focus on Green Cove Creek and the Woodland basins.

Rate of Urbanization and Forest Harvest in Thurston County 1985-2000. January 2002. TRPC. This report studies the decrease in forest cover as well as the increase in urban cover that occurred within Thurston County during the years of 1985-2000.

Thurston County Water Resources Annual Monitoring Report 2003-2005 Water Years. 2007. Thurston County Environmental Health and the Thurston County Storm and Surface Water Program. This report rates creek water quality as “fair”. This rating is due to the failure of both parts of the fecal coliform standard. In addition, the dissolved oxygen standard was violated 7 of 9 times and the temperature standard was violated once. The report also notes that the basin experiences reductions in water quality due to non-point pollution problems from agriculture and on-site sewage disposal systems. In addition, the basins outflow into the Nisqually reach, a location utilized by commercial shellfish businesses. The report notes that Lake St. Claire shoreline residents have voiced concerns about erosion and property damage caused by boat and jet-ski wakes in the larger, southwest basin.

Nisqually basin

The Nisqually River has four stick gauges utilized for measuring river and flooding heights.

There are two USGS gauges providing real time data on parameters such as streamflow, reservoir, water-quality, meteorological, and groundwater sites. The website at which this data may be obtained is: <http://waterdata.usgs.gov/wa/nwis/rt>.

Natural Hazards Mitigation Plan for the Thurston Region. 2003. Andrews et al. The study notes the following on the flooding history of the Nisqually River:

Flooding history of the Nisqually River: The Nisqually River watershed drains the area along the eastern boundary of the county. Much of the land along the Nisqually River, from the Nisqually Delta at Puget Sound to McKenna (on the Pierce County side), is occupied by the Nisqually Indian Reservation and Fort Lewis Military Reservation. Historically, nuisance flooding occurs when the flow rate exceeds about 8,000 cubic feet per second (cfs). Since 1972, the river exceeded this flow rate 12 times. Moderate flooding occurs when the flow rate exceeds 15,000 cfs. Since 1972, this occurred seven times. Major flooding occurs when the flow rate exceeds about 22,000 cfs. This has been exceeded twice since 1972, in November 1995 and February 1996. The February 1996

flow rate, which exceeded 45,000 cfs, established the flood of record. Creeks within the Nisqually can be affected by localized rainfall events but in general they flood whenever the river is flooding. Also, it can take much less rainfall for creeks to rise to threatening levels without the nearby river flooding.

Nisqually National Wildlife Refuge: Final Comprehensive Conservation Plan and Environmental Impact Statement. 2004 USFWS. This report outlines the community vision and provides evaluation of four alternatives for future management of Nisqually National Wildlife Refuge.

Nisqually River Basin Fecal Coliform Bacteria and Dissolved Oxygen Total Maximum Daily Load Study. May 2005. Sargeant, D., M. Roberts, and B. Carey. This study provides Department of Ecology results for a TMDL study for fecal coliform bacteria in the Nisqually River, the Nisqually Reach of Puget Sound, Ohop Creek, Red Salmon Creek, and McAllister Creek from March 2002 through September 2003. Results showed that the Nisqually River and most of the Nisqually Reach met fecal coliform water quality standards and showed improving trends. Therefore, no load reductions are recommended; however, continued monitoring is suggested.

Nisqually Sub-Area Land Use Plan and Zoning. November 1992. TCPD. This plan was designed to inform the Comprehensive Plan and assist planners with future zoning decisions. The plan provides good historical context. Zoning information may have been modified as a result of more recent reviews.

Rate of Urbanization and Forest Harvest in Thurston County 1985-2000. January 2002. TRPC. This report studies the decrease in forest cover as well as the increase in urban cover that occurred within Thurston County during the years of 1985-2000.

The Relationship of Land Cover to Total and Effective Impervious Area. June 2003. TRPC. This report uses remote sensing data to determine total and effective impervious surface area for the basins of Thurston County with additional focus on Green Cove Creek and the Woodland basins.

Thompson Creek basin (Nisqually)

A water quality sample site is located on Yelm Creek.

Rate of Urbanization and Forest Harvest in Thurston County 1985-2000. January 2002. TRPC. This report studies the decrease in forest cover as well as the increase in urban cover that occurred within Thurston County during the years of 1985-2000.

The Relationship of Land Cover to Total and Effective Impervious Area. June 2003. TRPC. This report uses remote sensing data to determine total and effective impervious surface area for the basins of Thurston County with additional focus on Green Cove Creek and the Woodland basins.

WRIA 13

Chambers Basin

Chambers Basin Moratorium Evaluation Report. March 2008. City of Olympia Public Works Department. The Final Chambers Basin Moratorium Evaluation Report summarizes the technical and policy evaluation of the interrelated groundwater and stormwater problems in a portion of Chambers Basin, and their implications for future land use development.

Chambers/Ward/Hewitt Comprehensive Drainage Basin Plan. July 1995. Thurston County Storm and Surface Water Program. The plan was generated to respond to concerns over the impacts of urban development on the natural resources of the basin. The plan includes a basin characterization, problem identification and recommendations.

Impervious Surface Reduction Study: Draft Report. November 1994. City of Olympia Public Works Department Water Resources Program. This study was conducted to reduce the per person amount of impervious surfaces in light of growth.

Dana Passage basin

Bulkheading in Thurston County: Impacts on Forage Fish Spawning Habitat. 2005. Environmental and Thurston Regional Planning Council. The shorelines in this basin were identified as high priority area for preservation.

Juvenile Salmon Nearshore Project Selection Tool. 2009. Squaxin Island Tribe. This model does not contain a report, but contains spatial data. The model results show spatially which areas of the nearshore are beneficial to all juvenile salmonids, which areas are most limiting to all juvenile salmonids, and which areas should be considered for restoration and conservation.

Rate of Urbanization and Forest Harvest in Thurston County 1985-2000. January 2002 TRPC. This report studies the decrease in forest cover as well as the increase in urban cover that occurred within Thurston County during the years of 1985-2000.

The Relationship of Land Cover to Total and Effective Impervious Area. June 2003. TRPC. This report uses remote sensing data to determine total and effective impervious surface area for the basins of Thurston County with additional focus on Green Cove Creek and the Woodland basins.

WRIA 13 Watershed Assessment. 2004. WRIA 13 Watershed Planning Committee. This assessment provides information on WRIA 13 including existing plans, programs, and data, land use, geology and groundwater, surface water, water quality, and water rights.

WRIA 13 Watershed Plan: Revised Draft. October 2004. Thurston County. This plan provides background planning information, recommendations for planning, water quantity and quality information, and habitat data.

Deschutes River basin

WDFW conducts wild salmon population monitoring as well as fish rearing along the Deschutes River. Although this monitoring occurs within the City of Tumwater jurisdiction, the information gathered during this review process is applicable to those portions of the Deschutes

River within the County jurisdiction. Further information on these efforts can be obtained at the following websites: http://wdfw.wa.gov/fish/wild_salmon_monitor/deschutes_river.htm, http://wdfw.wa.gov/hat/hgmp/pdf/puget_sound/chinook/tumwater_falls_yearling_fall_chinook.pdf, and <http://www.deschuteswatershedcenter.org/>

There are multiple water quality sample sites located along the Deschutes River. The site at E street has the most recent data (2005). New data has not been inputted for the other sites since 1994. Further information obtained from these sites may be obtained at: <http://www.geodata.org/swater/strm.asp?strm=DESDE0>.

A water quality sample site is mapped on Ayer (Elwanger) creek. The last collected information listed occurred in 1998. Further data may be obtained at: <http://www.geodata.org/swater/summary.asp?site=DESA Y0400&yrbnr=>.

A water quality sample site is mapped on Spurgeon Creek. The last collected information occurred in 2005. Further data may be obtained at: <http://www.geodata.org/swater/strm.asp?strm=DESSP0>.

Several stick gauges, used to monitor river height, are located along the Deschutes River. These gauges are located where the river intersects with the following roads: Rich Road, Waldrick Road, Military Road, Vail Cutoff, and Vail Loop.

A USGS gauge is located at the Tumwater Falls dam and where the Deschutes River is crossed by Vail Loop. USGS gauges provide real time data on parameters such as streamflow, reservoir, water-quality, meteorological, and groundwater sites. The website at which this data may be obtained is: <http://waterdata.usgs.gov/wa/nwis/rt>.

2001 Deschutes Groundwater Inflow Survey. February 2002. Thurston County Department of Public Health and Social Services.

Black Lake/Littlerock/Delphi Sub-area. 1981. TRPC. This report provides recommendations for future residential, commercial, and industrial development. It also provides information of the area's history, resources, and characteristics.

Budd Inlet/Deschutes River Watershed Characterization Part II Water Quality Study, March 1993 and Addendum (to the March 1993 report). October 1995. Thurston County Public Health and Social Services Department.

Impervious Surface Reduction Study: Draft Report. November 1994. City of Olympia Public Works Department Water Resources Program. This study was conducted to reduce the per person amount of impervious surfaces in light of growth.

Natural Hazards Mitigation Plan for the Thurston Region. 2003. Andrews et al. The study notes the following on the flooding history of the Deschutes River:

Flooding history of the Deschutes River: The Deschutes River flows diagonally across the central portion of the county and enters into Budd Inlet via Capitol Lake. Historically, nuisance flooding occurs when the flow rate exceeds about 3,000 cfs. Since 1972, the river has exceeded this flow rate 27 times. Moderate flooding occurs when the flow rate exceeds about 4,000 cfs. Since 1972, this has occurred 14 times. Major flooding occurs when the flow rate exceeds about 6,000 cfs. This has happened six times since 1972, in January 1972, January 1974, January 1990, April 1991, February 1996, and

December 1996. The flood of record was in January 1990 when the flow rate reached 9,600 cfs. Creeks within the Deschutes Watershed can be affected by localized rainfall events but in general they flood whenever the river is flooding. Also, it can take much less rainfall for creeks to rise to threatening levels without the nearby river flooding.

Rate of Urbanization and Forest Harvest in Thurston County 1985-2000. January 2002. TRPC. This report studies the decrease in forest cover as well as the increase in urban cover that occurred within Thurston County during the years of 1985-2000.

Salmon Habitat Limiting Factors Final Report. Water Resource Inventory Area 13. 1999. Haring, D. and J. Konovsky. Washington State Conservation Commission. This report assesses limiting factors for salmonid habitat in WRIA 13 and provides management recommendations.

The Relationship of Land Cover to Total and Effective Impervious Area. June 2003. TRPC. This report uses remote sensing data to determine total and effective impervious surface area for the basins of Thurston County with additional focus on Green Cove Creek and the Woodland basins.

WRIA 13 Watershed Assessment. 2004. WRIA 13 Watershed Planning Committee. This assessment provides information on WRIA 13 including existing plans, programs, and data, land use, geology and groundwater, surface water, water quality, and water rights.

WRIA 13 Watershed Plan: Revised Draft. October 2004. Thurston County. This plan provides background planning information, recommendations for planning, water quantity and quality information, and habitat data. This plan was not adopted.

Deschutes River, Capitol Lake, and Budd Inlet Temperature, Fecal Coliform Bacteria, Dissolved Oxygen, pH, and Fine Sediment Total Maximum Daily Load Water Quality Study Findings. June 2012. (Ecology Publication: 12-03-008)
<https://fortress.wa.gov/ecy/publications/summarypages/1203008.html>

East Bay basin

Bulkheading in Thurston County: Impacts on Forage Fish Spawning Habitat. 2005. Herrera Environmental and Thurston Regional Planning Council. This study identifies two areas within this basin as high priority areas for restoration.

Henderson Inlet Watershed Action Plan. October 1989. TRPC. A small portion of this basin is included within the area studied for this action plan. The action plan addresses agricultural practices, onsite sewage disposal, storm water, forestry, boating, salmon net pens, and monitoring. For each section, water quality impacts, problem statements, goals, objectives, and action recommendations are presented. Implementation and funding is also addressed.

Impervious Surface Reduction Study: Draft Report. November 1994. City of Olympia Public Works Department Water Resources Program. This study identifies ways to reduce the per person amount of impervious surfaces in light of growth.

Juvenile Salmon Nearshore Project Selection Tool. 2009. Squaxin Island Tribe. This model does not contain a report, but contains spatial data. The model results show spatially which areas of the nearshore are beneficial to all juvenile salmonids, which areas are most limiting to all juvenile salmonids, and which areas should be considered for restoration and conservation.

Rate of Urbanization and Forest Harvest in Thurston County 1985-2000. January 2002. TRPC. This report studies the decrease in forest cover as well as the increase in urban cover that occurred within Thurston County during the years of 1985-2000.

The Relationship of Land Cover to Total and Effective Impervious Area. June 2003. TRPC. This report uses remote sensing data to determine total and effective impervious surface area for the basins of Thurston County with additional focus on Green Cove Creek and the Woodland basins.

WRIA 13 Watershed Assessment. 2004. WRIA 13 Watershed Planning Committee. This assessment provides information on WRIA 13 including existing plans, programs, and data, land use, geology and groundwater, surface water, water quality, and water rights.

WRIA 13 Watershed Plan: Revised Draft. October 2004. Thurston County. This plan provides background planning information, recommendations for planning, water quantity and quality information, and habitat data.

Eld Inlet basin

A water quality sample site is mapped on Simmons Creek. Further information can be obtained at: <http://www.geodata.org/swater/strm.asp?strm=ELDSI0>.

Bulkheading in Thurston County: Impacts on Forage Fish Spawning Habitat. 2005. Herrera Environmental and Thurston Regional Planning Council. This study identified three areas within this basin as high priority areas for restoration.

Eld Inlet Watershed Action Plan. October 1989. TRPC. This document provides a tool to inform management decisions for reducing the pollution affecting Eld inlet. Plan provides a watershed description, information regarding water quality, sources of non-point pollution, and an implementation strategy.

Juvenile Salmon Nearshore Project Selection Tool. 2009. Squaxin Island Tribe. This model does not contain a report, but contains spatial data. The model results show spatially which areas of the nearshore are beneficial to all juvenile salmonids, which areas are most limiting to all juvenile salmonids, and which areas should be considered for restoration and conservation.

Rate of Urbanization and Forest Harvest in Thurston County 1985-2000. January 2002. TRPC. This report studies the decrease in forest cover as well as the increase in urban cover that occurred within Thurston County during the years of 1985-2000.

The Relationship of Land Cover to Total and Effective Impervious Area. June 2003. TRPC. This report uses remote sensing data to determine total and effective impervious surface area for the basins of Thurston County with additional focus on Green Cove Creek and the Woodland basins.

Totten and Eld Inlets Watershed Characterization Draft Report. 2009. Thurston County GeoData Center and Resource Stewardship. This report divides Eld Inlet Basin (East) into four Sub-watersheds: South Eld Sub-watershed, North Eld Sub-watershed, Green Cove Creek Sub-watershed, and Mud Bay Sub-watershed. The report finds that approximately five percent of South Eld Sub-watershed, seven percent of North Eld Sub-watershed, fourteen percent of Green

Cove Creek Sub-watershed, and eleven percent of Mud Bay Sub-watershed are covered by urban land uses. All four Sub-watersheds are considered: in an “at-risk” condition for the delivery of water; in a “properly functioning” condition for the delivery of sediment, with the exceptions of Green Cove Creek and Mud Bay Sub-watersheds which are considered both “properly functioning” and “at-risk” for the delivery of sediment; in an “at-risk” and “not properly functioning” condition for the delivery and routing of wood; in an “at-risk” condition for delivery and routing of pollutants (North Eld and Green Cover Creek Sub-watersheds only, South Eld and Mud Bay Sub-watersheds do not have pollutant data); primarily in an “at-risk” condition for the delivery and routing of heat; aquatic integrity was not ranked due to lack of data, with the exception of Green Cove Creek Sub-watershed which is considered in an “at risk” condition based on limited data; are considered “at-risk” and “properly functioning” for habitat connectivity, with the exception of Mud Bay Sub-watershed which is considered “at-risk” for habitat connectivity. Drainage Analysis Units (DAU’s) in the “at-risk” category for multiple key ecological and biological processes are assumed to provide the greatest potential to maximize environmental benefits when restored. South Eld Inlet has primarily high and moderate ecological benefit, with only three DAUs ranked as low. North Eld has primarily high and moderate ecological benefit, with only one DAU ranked as low. Mud Bay has primarily high and moderate ecological benefit, with only three DAUs ranked as low. Green Cove Creek has primarily high and moderate ecological benefit, with only one DAU ranked as low.

WRIA 13 Watershed Assessment. 2004. WRIA 13 Watershed Planning Committee. This assessment provides information on WRIA 13 including existing plans, programs, and data, land use, geology and groundwater, surface water, water quality, and water rights.

WRIA 13 Watershed Plan: Revised Draft. October 2004. Thurston County. This plan provides background planning information, recommendations for planning, water quantity and quality information, and habitat data.

Green Cove Creek basin

There is a rain gauge located on Butler Creek.

This basin contains a water quality stream gauge for Green Cove Creek. Further information regarding data obtained at this gauge can be located at <http://www.geodata.org/swater/strm.asp?strm=ELDGCC0>.

Green Cove Creek Comprehensive Drainage Basin Plan. December 1998. Thurston County and City of Olympia. The plan contains policies, regulations, and capital projects generated in an effort to prevent future water quality and stormwater runoff problems, correct known problems, and protect fish habitat within the Green Cover Creek basin. The plan contains a basin characterization including information on hydrology, water quality, fish habitat, problem identification and analysis, an alternatives analysis, as well as a recommended plan and proposal for implementation.

Juvenile Salmon Nearshore Project Selection Tool. 2009. Squaxin Island Tribe. This model does not contain a report, but contains spatial data. The model results show spatially which areas of the nearshore are beneficial to all juvenile salmonids, which areas are most limiting to all juvenile salmonids, and which areas should be considered for restoration and conservation.

Rate of Urbanization and Forest Harvest in Thurston County 1985-2000. January 2002. TRPC. This report studies the decrease in forest cover as well as the increase in urban cover that occurred within Thurston County during the years of 1985-2000.

Salmon Habitat Limiting Factors Final Report. Water Resource Inventory Area 13. 1999. Haring, D. and J. Konovsky. Washington State Conservation Commission. This report assesses limiting factors for salmonid habitat in WRIA 13 and provides management recommendations.

The Relationship of Land Cover to Total and Effective Impervious Area. June 2003. TRPC. This report uses remote sensing data to determine total and effective impervious surface area for the basins of Thurston County with additional focus on Green Cove Creek and the Woodland basins.

WRIA 13 Watershed Assessment. 2004. WRIA 13 Watershed Planning Committee. This assessment provides information on WRIA 13 including existing plans, programs, and data, land use, geology and groundwater, surface water, water quality, and water rights.

WRIA 13 Watershed Plan: Revised Draft. October 2004. Thurston County. This plan provides background planning information, recommendations for planning, water quantity and quality information, and habitat data.

Henderson basin

Henderson Inlet contains a water quality sampling site. This water quality sample site provides 1996 data on trophic state indices and Secchi disk reading. The website at which this data may be obtained is: <http://www.geodata.org/swater/strm.asp?strm=NISCLL>.

This basin is part of the Henderson Inlet Shellfish Protection District adopted by the Board of County Commissioners in December 2001. Washington State law required the board to form the district after the state Department of Health closed portions of the two watersheds to shellfish harvesting because of unacceptably high levels of fecal coliform bacteria. A revised protection district was adopted on November 21, 2005. The modifications were based upon the recommendations submitted in 2003 by the shellfish protection district stakeholder groups.

Bacteriological Contamination Source Identification, Henderson Inlet, 1999-2001. January 2002. Thurston County Environmental Health Division in conjunction with Dr. Mansour Samadpour of the University of Washington.

Bulkheading in Thurston County: Impacts on Forage Fish Spawning Habitat. 2005. Herrera Environmental and Thurston Regional Planning Council. This study identifies three areas within this basin as high priority areas for restoration.

Henderson Inlet and Nisqually Reach Shellfish Protection Districts Implementation Work Plan, March 1, 2005. Thurston County.

Henderson Inlet Watershed Action Plan. October 1989. Thurston County Planning Department. This basin is identified within the action plan. This action plan addresses agricultural practices, onsite sewage disposal, storm water, forestry, boating, salmon net pens, and monitoring. For each section, water quality impacts, problem statements, goals, objectives, and action recommendations are presented. Implementation and funding is also addressed.

Henderson Inlet Watershed Characterization Report. August 29, 2007, Thurston County GeoData Center, Water and Waste Management. This report provides a watershed characterization as well as a listing of potential restoration opportunities.

Rate of Urbanization and Forest Harvest in Thurston County 1985-2000. January 2002. TRPC. This report studies the decrease in forest cover as well as the increase in urban cover that occurred within Thurston County during the years of 1985-2000.

The Relationship of Land Cover to Total and Effective Impervious Area. June 2003. TRPC. This report uses remote sensing data to determine total and effective impervious surface area for the basins of Thurston County with additional focus on Green Cove Creek and the Woodland basins.

WRIA 13 Initial Assessment – Henderson Inlet Watershed: Revised Draft. March 2001. WRIA 13 Watershed Planning Committee. This report provides a general description of the inlet including geology, hydrology, water rights, water use, surface and ground water quality, and fisheries habitat. The report was generated before the major findings and recommendations sections which is to be added later.

WRIA 13 Watershed Assessment. 2004. WRIA 13 Watershed Planning Committee. This assessment provides information on WRIA 13 including existing plans, programs, and data, land use, geology and groundwater, surface water, water quality, and water rights.

WRIA 13 Watershed Plan: Revised Draft. October 2004. Thurston County. This plan provides background planning information, recommendations for planning, water quantity and quality information, and habitat data.

Henderson Inlet Watershed Fecal Coliform Bacteria, Dissolved Oxygen, pH, and Temperature-Total Maximum Daily Load Study. March 2006. Department of Ecology.

Indian Creek basin

Indian Creek contains a water quality sample site and a rain gauge.

Henderson Inlet Watershed Action Plan. October 1989. TRPC. A small part of this basin is included in this action plan. The plan addresses agricultural practices, onsite sewage disposal, storm water, forestry, boating, salmon net pens, and monitoring. For each section, water quality impacts, problem statements, goals, objectives, and action recommendations are presented. Implementation and funding is also addressed.

Indian Moxlie Creek Comprehensive Drainage Basin Plan. May 1993. City of Olympia. The city of Olympia generated this plan to address concerns over the impact of urbanization on surface waters within the basin. The plan provides a basin characterization, basin problem analysis as well as management proposals.

Rate of Urbanization and Forest Harvest in Thurston County 1985-2000. January 2002. TRPC. This report studies the decrease in forest cover as well as the increase in urban cover that occurred within Thurston County during the years of 1985-2000.

The Relationship of Land Cover to Total and Effective Impervious Area. June 2003. TRPC. This report uses remote sensing data to determine total and effective impervious surface area for

the basins of Thurston County with additional focus on Green Cove Creek and the Woodland basins.

Salmon Habitat Limiting Factors Final Report. Water Resource Inventory Area 13. 1999. Haring, D. and J. Konovsky. Washington State Conservation Commission. This report assesses limiting factors for salmonid habitat in WRIA 13 and provides management recommendations.

Salmon Habitat Protection and Restoration Plan for the Water Resource Inventory Area 13, Deschutes. 2005. Thurston Conservation District. This document provides information about this basin as well as priority habitat restoration projects.

WRIA 13 Watershed Assessment. 2004. WRIA 13 Watershed Planning Committee. This assessment provides information on WRIA 13 including existing plans, programs, and data, land use, geology and groundwater, surface water, water quality, and water rights.

WRIA 13 Watershed Plan: Revised Draft. October 2004. Thurston County. This plan provides background planning information, recommendations for planning, water quantity and quality information, and habitat data.

Lawrence Lake basin

This basin has two water quality gauges, one level gauge within the northern portion of the basin and a rain gauge within the southern portion of the basin.

Rate of Urbanization and Forest Harvest in Thurston County 1985-2000. January 2002. TRPC. This report studies the decrease in forest cover as well as the increase in urban cover that occurred within Thurston County during the years of 1985-2000.

The Relationship of Land Cover to Total and Effective Impervious Area. June 2003. TRPC. This report uses remote sensing data to determine total and effective impervious surface area for the basins of Thurston County with additional focus on Green Cove Creek and the Woodland basins.

WRIA 13 Watershed Assessment. 2004. WRIA 13 Watershed Planning Committee. This assessment provides information on WRIA 13 including existing plans, programs, and data, land use, geology and groundwater, surface water, water quality, and water rights.

WRIA 13 Watershed Plan: Revised Draft. October 2004. Thurston County. This plan provides background planning information, recommendations for planning, water quantity and quality information, and habitat data.

Lake Lawrence Integrated Aquatic Vegetation Management Plan. 2004. EnviroVision et al. This report provides a description of the aquatic plant control plan developed for Lake Lawrence.

McIntosh Lake basin

Rate of Urbanization and Forest Harvest in Thurston County 1985-2000. January 2002. TRPC. This report studies the decrease in forest cover as well as the increase in urban cover that occurred within Thurston County during the years of 1985-2000.

The Relationship of Land Cover to Total and Effective Impervious Area. June 2003. TRPC.

This report uses remote sensing data to determine total and effective impervious surface area for the basins of Thurston County with additional focus on Green Cove Creek and the Woodland basins.

WRIA 13 Watershed Assessment. 2004. WRIA 13 Watershed Planning Committee. This assessment provides information on WRIA 13 including existing plans, programs, and data, land use, geology and groundwater, surface water, water quality, and water rights.

WRIA 13 Watershed Plan: Revised Draft. October 2004. Thurston County. This plan provides background planning information, recommendations for planning, water quantity and quality information, and habitat data.

McLane Creek basin

This basin has a mapped water quality sample site located near the intersection of McLane Creek and Delphi Road. This site is listed as providing both a water quality gauge and stream gauge.

Salmon Habitat Limiting Factors Final Report. Water Resource Inventory Area 13. 1999. Haring, D. and J. Konovsky. Washington State Conservation Commission. This report assesses limiting factors for salmonid habitat in WRIA 13 and provides management recommendations.

The Relationship of Land Cover to Total and Effective Impervious Area. June 2003. TRPC.

This report uses remote sensing data to determine total and effective impervious surface area for the basins of Thurston County with additional focus on Green Cove Creek and the Woodland basins.

Totten and Eld Inlets Watershed Characterization Draft Report. 2009. Thurston County GeoData Center and Resource Stewardship. This report finds that approximately two percent of the McLane Creek Sub-watershed is covered by urban land uses. McLane Creek Sub-watershed is considered in an “at-risk” condition for the delivery of water with four DAUs “properly functioning”; in an “at-risk” and “properly functioning” condition for the delivery of sediment; in a “not properly functioning” and “at-risk” condition for the delivery and routing of wood; limited pollutant data indicated an “at-risk” condition for the delivery and movement of pollutants; primarily in an “at-risk” condition for the delivery and routing of heat; primarily “at-risk” condition for aquatic integrity; is considered “not properly functioning” and “at-risk” for habitat connectivity. Drainage Analysis Units (DAU’s) in the “at-risk” category for multiple key ecological and biological processes are assumed to provide the greatest potential to maximize environmental benefits when restored. McLane Creek Sub-watershed has primarily high and moderate ecological benefit, with only two DAUs ranked as low.

Tributaries to Totten, Eld, and Little Skookum Inlets: Fecal Coliform Bacteria and Temperature Total Maximum Daily Load Water Quality Improvement Report. March 2006. Washington State Department of Ecology. This TMDL study (water cleanup plan) was conducted in response to federal Clean Water Act 303(d) listings for fecal coliform bacteria in four tributaries to Totten Inlet (Pierre, Burns, Kennedy, and Schneider creeks), two tributaries to Eld Inlet (McLane and Perry creeks), and one tributary to Little Skookum Inlet (Skookum Creek). The temperature listing for Skookum Creek is also addressed. A temperature listing for Kennedy Creek is

deferred pending implementation of a Habitat Conservation Plan. An Implementation Strategy is also included in this report.

Tributaries to Totten, Eld, and Little Skookum Inlets: Fecal Coliform Bacteria and Temperature Total Maximum Daily Load Water Quality Implementation Plan. November 2007. Washington State Department of Ecology. Pollution in this watershed comes from many small sources scattered throughout the watershed. Fecal coliform bacteria come from the waste of warm blooded animals like humans, livestock, pets, and wildlife. Cleanup of bacteria pollution will focus first on controllable, human-related sources. The main elements of the cleanup strategy are: investigation of pollution sources, technical assistance, outreach, incentives, and monitoring.

WRIA 13 Watershed Assessment. 2004. WRIA 13 Watershed Planning Committee. This assessment provides information on WRIA 13 including existing plans, programs, and data, land use, geology and groundwater, surface water, water quality, and water rights.

WRIA 13 Watershed Plan: Revised Draft. October 2004. Thurston County. This plan provides background planning information, recommendations for planning, water quantity and quality information, and habitat data.

Nisqually Reach basin

Bulkheading in Thurston County: Impacts on Forage Fish Spawning Habitat. 2005. Herrera Environmental and Thurston Regional Planning Council. This study identifies one area within this basin as high priority area for restoration.

Impervious Surface Reduction Study: Draft Report. November 1994. City of Olympia Public Works Department Water Resources Program. This study identifies ways to reduce the per person amount of impervious surfaces in light of growth.

Juvenile Salmon Nearshore Project Selection Tool. 2009. Squaxin Island Tribe. This model does not contain a report, but contains spatial data. The model results show spatially which areas of the nearshore are beneficial to all juvenile salmonids, which areas are most limiting to all juvenile salmonids, and which areas should be considered for restoration and conservation.

Nisqually Reach Pollution Source Identification Task 5: DNA Typing Analysis Final Report. May 2004. Thurston County Public Health and Social Services Department; Environmental Health Division. This report identifies that the Nisqually Reach shellfish areas have been downgraded due to increasing levels of fecal coliform bacteria in the water and seeks to clarify the pollution source.

Rate of Urbanization and Forest Harvest in Thurston County 1985-2000. January 2002. TRPC. This report studies the decrease in forest cover as well as the increase in urban cover that occurred within Thurston County during the years of 1985-2000.

The Relationship of Land Cover to Total and Effective Impervious Area. June 2003. TRPC. This report uses remote sensing data to determine total and effective impervious surface area for the basins of Thurston County with additional focus on Green Cove Creek and the Woodland basins.

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WRIA 13 Watershed Plan: Revised Draft. October 2004. Thurston County. This plan provides background planning information, recommendations for planning, water quantity and quality information, and habitat data.

Offut Lake basin

Rate of Urbanization and Forest Harvest in Thurston County 1985-2000. January 2002. TRPC. This report studies the decrease in forest cover as well as the increase in urban cover that occurred within Thurston County during the years of 1985-2000.

Totten and Eld Inlets Watershed Characterization Draft Report. 2009. Thurston County GeoData Center and Resource Stewardship. This report finds that approximately two percent of the McLane Creek Sub-watershed is covered by urban land uses. McLane Creek Sub-watershed is considered in an “at-risk” condition for the delivery of water with four DAUs “properly functioning”; in an “at-risk” and “properly functioning” condition for the delivery of sediment; in a “not properly functioning” and “at-risk” condition for the delivery and routing of wood; limited pollutant data indicated an “at-risk” condition for the delivery and movement of pollutants; primarily in an “at-risk” condition for the delivery and routing of heat; primarily “at-risk” condition for aquatic integrity; is considered “not properly functioning” and “at-risk” for habitat connectivity. Drainage Analysis Units (DAU’s) in the “at-risk” category for multiple key ecological and biological processes are assumed to provide the greatest potential to maximize environmental benefits when restored. McLane Creek Sub-watershed has primarily high and moderate ecological benefit, with only two DAUs ranked as low.

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WRIA 13 Watershed Plan: Revised Draft. October 2004. Thurston County. This plan provides background planning information, recommendations for planning, water quantity and quality information, and habitat data.

Percival Creek basin

This basin contains five water quality gauges. These gauges are as follows: two stream gauges on Percival Creek, two water quality sample sites, and a stream gauge on Black Lake ditch.

Black Lake/Littlerock/Delphi Sub-area. 1981. TRPC. This report provides recommendations for future residential, commercial, and industrial development. It also provides information of the area's history, resources and characteristics.

Impervious Surface Reduction Study: Draft Report. November 1994. City of Olympia Public Works Department Water Resources Program. This study identifies ways to reduce the per person amount of impervious surfaces in light of growth.

Percival Creek Comprehensive Drainage Basin Plan. May 1993. City of Olympia Public Works Department in conjunction with city of Tumwater and Thurston County. This plan responds to concerns of the impacts of urban development on natural resources of the basin. The plan provides basin characterization, analysis of problems within the basin, and possible management solutions.

Percival Creek Corridor Plan, Volume 2 Upper Reach. February 1986. TRPC. This plan provides a management tool to guide future land use decisions along the creek. The plan addresses natural and urban features, summarizes plans, ordinances and studies, and lists community involvement.

Rate of Urbanization and Forest Harvest in Thurston County 1985-2000. January 2002. TRPC. This report studies the decrease in forest cover as well as the increase in urban cover that occurred within Thurston County during the years of 1985-2000.

Totten and Eld Inlets Watershed Characterization Draft Report. 2009. Thurston County GeoData Center and Resource Stewardship. This report finds that approximately two percent of the McLane Creek Sub-watershed is covered by urban land uses. McLane Creek Sub-watershed is considered in an "at-risk" condition for the delivery of water with four DAUs "properly functioning"; in an "at-risk" and "properly functioning" condition for the delivery of sediment; in a "not properly functioning" and "at-risk" condition for the delivery and routing of wood; limited pollutant data indicated an "at-risk" condition for the delivery and movement of pollutants; primarily in an "at-risk" condition for the delivery and routing of heat; primarily "at-risk" condition for aquatic integrity; is considered "not properly functioning" and "at-risk" for habitat connectivity. Drainage Analysis Units (DAU's) in the "at-risk" category for multiple key ecological and biological processes are assumed to provide the greatest potential to maximize environmental benefits when restored. McLane Creek Sub-watershed has primarily high and moderate ecological benefit, with only two DAUs ranked as low.

Tributaries to Totten, Eld, and Little Skookum Inlets: Fecal Coliform Bacteria and Temperature Total Maximum Daily Load Water Quality Improvement Report. March 2006. Washington State Department of Ecology. This TMDL study (water cleanup plan) was conducted in response to

federal Clean Water Act 303(d) listings for fecal coliform bacteria in four tributaries to Totten Inlet (Pierre, Burns, Kennedy, and Schneider creeks), two tributaries to Eld Inlet (McLane and Perry creeks), and one tributary to Little Skookum Inlet (Skookum Creek). The temperature listing for Skookum Creek is also addressed. A temperature listing for Kennedy Creek is deferred pending implementation of a Habitat Conservation Plan. An Implementation Strategy is also included in this report.

The Relationship of Land Cover to Total and Effective Impervious Area. June 2003. TRPC. This report uses remote sensing data to determine total and effective impervious surface area for the basins of Thurston County with additional focus on Green Cove Creek and the Woodland basins.

WRIA 13 Watershed Assessment. 2004. WRIA 13 Watershed Planning Committee. This assessment provides information on WRIA 13 including existing plans, programs, and data, land use, geology and groundwater, surface water, water quality, and water rights.

WRIA 13 Watershed Plan: Revised Draft. October 2004. Thurston County. This plan provides background planning information, recommendations for planning, water quantity and quality information, and habitat data.

Reichel Lake basin

Rate of Urbanization and Forest Harvest in Thurston County 1985-2000. January 2002. TRPC. This report studies the decrease in forest cover as well as the increase in urban cover that occurred within Thurston County during the years of 1985-2000.

Totten and Eld Inlets Watershed Characterization Draft Report. 2009. Thurston County GeoData Center and Resource Stewardship. This report finds that approximately two percent of the McLane Creek Sub-watershed is covered by urban land uses. McLane Creek Sub-watershed is considered in an “at-risk” condition for the delivery of water with four DAUs “properly functioning”; in an “at-risk” and “properly functioning” condition for the delivery of sediment; in a “not properly functioning” and “at-risk” condition for the delivery and routing of wood; limited pollutant data indicated an “at-risk” condition for the delivery and movement of pollutants; primarily in an “at-risk” condition for the delivery and routing of heat; primarily “at-risk” condition for aquatic integrity; is considered “not properly functioning” and “at-risk” for habitat connectivity. Drainage Analysis Units (DAU’s) in the “at-risk” category for multiple key ecological and biological processes are assumed to provide the greatest potential to maximize environmental benefits when restored. McLane Creek Sub-watershed has primarily high and moderate ecological benefit, with only two DAUs ranked as low.

Tributaries to Totten, Eld, and Little Skookum Inlets: Fecal Coliform Bacteria and Temperature Total Maximum Daily Load Water Quality Improvement Report. March 2006. Washington State Department of Ecology. This TMDL study (water cleanup plan) was conducted in response to federal Clean Water Act 303(d) listings for fecal coliform bacteria in four tributaries to Totten Inlet (Pierre, Burns, Kennedy, and Schneider creeks), two tributaries to Eld Inlet (McLane and Perry creeks), and one tributary to Little Skookum Inlet (Skookum Creek). The temperature listing for Skookum Creek is also addressed. A temperature listing for Kennedy Creek is

deferred pending implementation of a Habitat Conservation Plan. An Implementation Strategy is also included in this report.

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WRIA 13 Watershed Assessment. 2004. WRIA 13 Watershed Planning Committee. This assessment provides information on WRIA 13 including existing plans, programs, and data, land use, geology and groundwater, surface water, water quality, and water rights.

WRIA 13 Watershed Plan: Revised Draft. October 2004. Thurston County. This plan provides background planning information, recommendations for planning, water quantity and quality information, and habitat data.

Spurgeon Creek basin

Rate of Urbanization and Forest Harvest in Thurston County 1985-2000. January 2002. TRPC.

This report studies the decrease in forest cover as well as the increase in urban cover that occurred within Thurston County during the years of 1985-2000.

Totten and Eld Inlets Watershed Characterization Draft Report. 2009. Thurston County GeoData Center and Resource Stewardship. This report finds that approximately two percent of the McLane Creek Sub-watershed is covered by urban land uses. McLane Creek Sub-watershed is considered in an “at-risk” condition for the delivery of water with four DAUs “properly functioning”; in an “at-risk” and “properly functioning” condition for the delivery of sediment; in a “not properly functioning” and “at-risk” condition for the delivery and routing of wood; limited pollutant data indicated an “at-risk” condition for the delivery and movement of pollutants; primarily in an “at-risk” condition for the delivery and routing of heat; primarily “at-risk” condition for aquatic integrity; is considered “not properly functioning” and “at-risk” for habitat connectivity. Drainage Analysis Units (DAU’s) in the “at-risk” category for multiple key ecological and biological processes are assumed to provide the greatest potential to maximize environmental benefits when restored. McLane Creek Sub-watershed has primarily high and moderate ecological benefit, with only two DAUs ranked as low.

Tributaries to Totten, Eld, and Little Skookum Inlets: Fecal Coliform Bacteria and Temperature Total Maximum Daily Load Water Quality Improvement Report. March 2006. Washington State Department of Ecology. This TMDL study (water cleanup plan) was conducted in response to federal Clean Water Act 303(d) listings for fecal coliform bacteria in four tributaries to Totten Inlet (Pierre, Burns, Kennedy, and Schneider creeks), two tributaries to Eld Inlet (McLane and Perry creeks), and one tributary to Little Skookum Inlet (Skookum Creek). The temperature listing for Skookum Creek is also addressed. A temperature listing for Kennedy Creek is deferred pending implementation of a Habitat Conservation Plan. An Implementation Strategy is also included in this report.

The Relationship of Land Cover to Total and Effective Impervious Area. June 2003. TRPC.

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WRIA 13 Watershed Plan: Revised Draft. October 2004. Thurston County. This plan provides background planning information, recommendations for planning, water quantity and quality information, and habitat data.

Tempo Lake basin

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WRIA 13 Watershed Plan: Revised Draft. October 2004. Thurston County. This plan provides background planning information, recommendations for planning, water quantity and quality information, and habitat data.

Ward Lake basin

This basin is mapped as containing two gauges. One is a water quality sample site, and the other is a stream gauge. Further information can be obtained at <http://www.geodata.org/swater/strm.asp?strm=DESCH0>.

The County has located a water level gauge for Ward Lake. In addition, the County obtains trophic state indices as well as secchi disk readings for the lake. Further information on this data may be obtained at <http://www.geodata.org/swater/strm.asp?strm=DESWAL>.

Chambers Basin Moratorium Evaluation Report. March 2008. City of Olympia Public Works Department. The Final Chambers Basin Moratorium Evaluation Report summarizes the technical and policy evaluation of the interrelated groundwater and stormwater problems in a portion of Chambers Basin, and their implications for future land use development.

Chambers/Ward/Hewitt Comprehensive Drainage Basin Plan. July 1995. Thurston County Storm and Surface Water Program. The plan was generated to respond to concerns over the impacts of urban development on the natural resources of the basin. The plan includes a basin characterization, problem identification and recommendations.

Impervious Surface Reduction Study: Draft Report. November 1994. City of Olympia Public Works Department Water Resources Program. This study was conducted to reduce the per person amount of impervious surfaces in light of growth.

Rate of Urbanization and Forest Harvest in Thurston County 1985-2000. January 2002. TRPC. This report studies the decrease in forest cover as well as the increase in urban cover that occurred within Thurston County during the years of 1985-2000.

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WRIA 13 Watershed Plan: Revised Draft. October 2004. Thurston County. This plan provides background planning information, recommendations for planning, water quantity and quality information, and habitat data.

West Bay basin

Bulkheading in Thurston County: Impacts on Forage Fish Spawning Habitat. 2005. Herrera Environmental and Thurston Regional Planning Council. This study identified areas within this basin prone to landslide as high priority areas for restoration.

Impervious Surface Reduction Study: Draft Report. November 1994. City of Olympia Public Works Department Water Resources Program. This study identifies ways to reduce the per person amount of impervious surfaces in light of growth.

Juvenile Salmon Nearshore Project Selection Tool. 2009. Squaxin Island Tribe. This model does not contain a report, but contains spatial data. The model results show spatially which areas of the nearshore are beneficial to all juvenile salmonids, which areas are most limiting to all juvenile salmonids, and which areas should be considered for restoration and conservation.

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WRIA 13 Watershed Plan: Revised Draft. October 2004. Thurston County. This plan provides background planning information, recommendations for planning, water quantity and quality information, and habitat data.

Woodard basin

There is a stream gauge on Woodard Creek.

Woodard basin is part of the Henderson Inlet Shellfish Protection District adopted by the Board of County Commissioners, December 2001. Washington State law required the board to form the district after the state Department of Health closed portions of the two watersheds to shellfish harvesting because of unacceptably high levels of fecal coliform bacteria. A revised protection district was adopted on November 21, 2005. The modifications were based upon the recommendations submitted in 2003 by the shellfish protection district stakeholder groups.

Henderson Inlet Watershed Action Plan. October 1989, Thurston County Planning Department. Created to inform management of non-point pollution. The plan addresses types of non-point pollution, monitoring objectives, identification of problems, and action recommendations.

Henderson Inlet Watershed Characterization Report. August 29, 2007, Thurston County GeoData Center, Water and Waste Management. This report provides a watershed characterization as well as a listing of potential restoration opportunities.

Henderson Inlet Watershed Fecal Coliform Bacteria, Dissolved Oxygen, pH, and Temperature-Total Maximum Daily Load Study. March 2006. Department of Ecology.

Impervious Surface Reduction Study: Draft Report. November 1994. City of Olympia Public Works Department Water Resources Program. This study identifies ways to reduce the per person amount of impervious surfaces in light of growth.

The Relationship of Land Cover to Total and Effective Impervious Area. June 2003. TRPC. This report uses remote sensing data to determine total and effective impervious surface area for the basins of Thurston County with additional focus on Green Cove Creek and the Woodland basins.

WRIA 13 Watershed Assessment. 2004. WRIA 13 Watershed Planning Committee. This assessment provides information on WRIA 13 including existing plans, programs, and data, land use, geology and groundwater, surface water, water quality, and water rights.

WRIA 13 Watershed Plan: Revised Draft. October 2004. Thurston County. This plan provides background planning information, recommendations for planning, water quantity and quality information, and habitat data.

Woodard Bay Natural Resources Conservation Area: Preliminary Reconnaissance Report. June 1988. This report serves as a collection of the data available to serve the preparation of a Management Plan. The report includes data on the topography, water quality/quantity, vegetative communities, wildlife resources, priority species as well as more anthropocentric uses such as archaeological and historical features, transportation, shoreline use, and zoning.

Woodland and Woodard Creek Comprehensive Drainage Basin Plan. August 1995. Thurston County Department of Water and Waste Management. This plan identifies water resource problems related to development and recommend solutions.

Woodland basin

This basin contains three water quality gauges. These gauges include one level gauge and two water quality sample site. In addition, Hicks Lake within the basin also contains a rain gauge.

Woodland Creek is part of a TMDL study.

Thurston County identifies TMDLs, fecal coliform and maintaining shellfish habitat as concerns for this basin.

Woodland basin is part of the Henderson Inlet Shellfish Protection District adopted by the Board of County Commissioners in December 2001. Washington State law required the board to form the district after the state Department of Health closed portions of the two watersheds to shellfish harvesting because of unacceptably high levels of fecal coliform bacteria. A revised protection district was adopted on November 21, 2005. The modifications were based upon the recommendations submitted in 2003 by the shellfish protection district stakeholder groups.

Henderson Inlet Watershed Action Plan. October 1989. Thurston County Planning Department. This plan intends to inform management of non-point pollution. The plan addresses types of non-point pollution, monitoring objectives, identification of problems, and action recommendations.

Henderson Inlet Watershed Characterization Report. August 29, 2007. Thurston County Geodata Center and Thurston County Department of Water and Waste Management. This report provides a watershed characterization as well as a listing of potential restoration opportunities.

Henderson Inlet Watershed Fecal Coliform Bacteria, Dissolved Oxygen, pH, and Temperature-Total Maximum Daily Load Study. March 2006. Department of Ecology.

Impervious Surface Reduction Study: Draft Report. November 1994. City of Olympia Public Works Department Water Resources Program. This study identifies ways to reduce the per person amount of impervious surfaces in light of growth.

The Relationship of Land Cover to Total and Effective Impervious Area. June 2003. TRPC. This report uses remote sensing data to determine total and effective impervious surface area for the basins of Thurston County with additional focus on Green Cove Creek and the Woodland basins.

WRIA 13 Watershed Assessment. 2004. WRIA 13 Watershed Planning Committee. This assessment provides information on WRIA 13 including existing plans, programs, and data, land use, geology and groundwater, surface water, water quality, and water rights.

WRIA 13 Watershed Plan: Revised Draft. October 2004. Thurston County. This plan provides background planning information, recommendations for planning, water quantity and quality information, and habitat data.

Woodland and Woodard Creek Comprehensive Drainage Basin Plan. August 1995. Thurston County Department of Water and Waste Management. This plan identifies water resource problems related to development and recommend solutions.

WRIA 14

Burns basin

The Relationship of Land Cover to Total and Effective Impervious Area. June 2003. TRPC. This report uses remote sensing data to determine total and effective impervious surface area for

the basins of Thurston County with additional focus on Green Cove Creek and the Woodland basins.

Tributaries to Totten, Eld, and Little Skookum Inlets: Fecal Coliform Bacteria and Temperature Total Maximum Daily Load Water Quality Improvement Report. March 2006. Washington State Department of Ecology. This TMDL study (water cleanup plan) was conducted in response to federal Clean Water Act 303(d) listings for fecal coliform bacteria in four tributaries to Totten Inlet (Pierre, Burns, Kennedy, and Schneider creeks), two tributaries to Eld Inlet (McLane and Perry creeks), and one tributary to Little Skookum Inlet (Skookum Creek). The temperature listing for Skookum Creek is also addressed. A temperature listing for Kennedy Creek is deferred pending implementation of a Habitat Conservation Plan. An Implementation Strategy is also included in this report.

Tributaries to Totten, Eld, and Little Skookum Inlets: Fecal Coliform Bacteria and Temperature Total Maximum Daily Load Water Quality Implementation Plan. November 2007. Washington State Department of Ecology. Pollution in this watershed comes from many small sources scattered throughout the watershed. Fecal coliform bacteria come from the waste of warm blooded animals like humans, livestock, pets, and wildlife. Cleanup of bacteria pollution will focus first on controllable, human-related sources. The main elements of the cleanup strategy are: investigation of pollution sources, technical assistance, outreach, incentives, and monitoring.

Totten-Little Skookum Inlet Watershed Action Plan. October 1989. Thurston County Planning Department and Mason County Planning Department. This watershed action plan provides a tool to inform management decisions on controlling non-point pollution for the watershed. The plan identifies the characteristics of the watershed, types and sources of non-point pollution, as well as goals and action recommendations for reducing pollution.

Eld Inlet (west) basin

Bulkheading in Thurston County: Impacts on Forage Fish Spawning Habitat. 2005. Herrera Environmental and Thurston Regional Planning Council. This study identifies the marine shoreline within this basin as high priority areas for restoration.

Eld Inlet Watershed Action Plan. October 1989. TRPC. This document provides as a tool to inform management decisions for reducing the pollution affecting Eld Inlet. The plan provides a watershed description, water quality data, sources of non-point pollution and an implementation strategy.

Juvenile Salmon Nearshore Project Selection Tool. 2009. Squaxin Island Tribe. This model does not contain a report, but contains spatial data. The model results show spatially which areas of the nearshore are beneficial to all juvenile salmonids, which areas are most limiting to all juvenile salmonids, and which areas should be considered for restoration and conservation.

Salmonid Habitat Limiting Factors Water Resource Inventory Area 14, Kennedy-Goldsborough Basin. 2002. Kuttel, M. Washington State Conservation Commission. This report assesses limiting factors for salmonid habitat in WRIA 14 and provides management recommendations.

The Relationship of Land Cover to Total and Effective Impervious Area. June 2003. TRPC. This report uses remote sensing data to determine total and effective impervious surface area for the basins of Thurston County with additional focus on Green Cove.

Totten and Eld Inlets Watershed Characterization Draft Report. 2009. Thurston County GeoData Center and Resource Stewardship. This report finds that approximately four percent of the West Eld Sub-watershed is covered by urban land uses. West Eld Sub-watershed is considered in an “at-risk” condition for the delivery of water; in a primarily “properly functioning” condition with only four “at-risk” DAUs for the delivery of sediment; in an “at-risk” and “not properly functioning” condition for the delivery and routing of wood; pollutant condition was not ranked based on lack of data; primarily in an “at-risk” condition for the delivery and routing of heat; aquatic integrity was not ranked due to lack of data; is considered “at-risk” for habitat connectivity, with ten DAUs “properly functioning”. Drainage Analysis Units (DAU’s) in the “at-risk” category for multiple key ecological and biological processes are assumed to provide the greatest potential to maximize environmental benefits when restored. The report found that West Eld Inlet Sub-watershed had primarily high and moderate ecological benefit, with only eight DAUs ranked as low.

Tributaries to Totten, Eld, and Little Skookum Inlets: Fecal Coliform Bacteria and Temperature Total Maximum Daily Load Water Quality Improvement Report. March 2006. Washington State Department of Ecology. This TMDL study (water cleanup plan) was conducted in response to federal Clean Water Act 303(d) listings for fecal coliform bacteria in four tributaries to Totten Inlet (Pierre, Burns, Kennedy, and Schneider creeks), two tributaries to Eld Inlet (McLane and Perry creeks), and one tributary to Little Skookum Inlet (Skookum Creek). The temperature listing for Skookum Creek is also addressed. A temperature listing for Kennedy Creek is deferred pending implementation of a Habitat Conservation Plan. An Implementation Strategy is also included in this report.

Kennedy Creek basin

Green Diamond Resource Company Habitat Conservation Plan (HCP), Simpson Habitat Assessment. 1999. USFWS.

Rate of Urbanization and Forest Harvest in Thurston County 1985-2000. January 2002. TRPC. This report studies the decrease in forest cover as well as the increase in urban cover that occurred within Thurston County during the years of 1985-2000.

Salmonid Habitat Limiting Factors Water Resource Inventory Area 14, Kennedy-Goldsborough Basin. 2002. Kuttel, M. Washington State Conservation Commission. This report assesses limiting factors for salmonid habitat in WRIA 14 and provides management recommendations.

The Relationship of Land Cover to Total and Effective Impervious Area. June 2003. TRPC.

This report uses remote sensing data to determine total and effective impervious surface area for the basins of Thurston County with additional focus on Green Cove Creek and the Woodland basins.

Totten and Eld Inlets Watershed Characterization Draft Report. 2009. Thurston County GeoData Center and Resource Stewardship. This report finds that approximately two percent of the Kennedy Creek Sub-watershed is covered by urban land uses. Kennedy Creek Sub-watershed is considered in an “at-risk” condition for the delivery of water; in an “at-risk” and “properly functioning” condition for the delivery of sediment”; in a “not properly functioning” and “at-risk” condition for the delivery and routing of wood; pollutant condition was not ranked based on

lack of data; primarily in an “at-risk” condition for the delivery and routing of heat; aquatic integrity was not ranked due to lack of data; is considered “at-risk” for habitat connectivity. Drainage Analysis Units (DAU’s) in the “at-risk” category for multiple key ecological and biological processes are assumed to provide the greatest potential to maximize environmental benefits when restored. The report found that Kennedy Creek had 75 DAUs, with only three DAUs ranked as low, thus no restoration potential.

Totten-Little Skookum Inlet Watershed Action Plan. October 1989. Thurston County Planning Department and Mason County Planning Department. This plan provides a tool to inform management decisions on controlling non-point pollution for the watershed. The report identifies the characteristics of the watershed, types and sources of non-point pollution, as well as goals and action recommendations for reducing pollution.

Tributaries to Totten, Eld, and Little Skookum Inlets: Fecal Coliform Bacteria and Temperature Total Maximum Daily Load Water Quality Improvement Report. March 2006. Washington State Department of Ecology. This TMDL study (water cleanup plan) was conducted in response to federal Clean Water Act 303(d) listings for fecal coliform bacteria in four tributaries to Totten Inlet (Pierre, Burns, Kennedy, and Schneider creeks), two tributaries to Eld Inlet (McLane and Perry creeks), and one tributary to Little Skookum Inlet (Skookum Creek). The temperature listing for Skookum Creek is also addressed. A temperature listing for Kennedy Creek is deferred pending implementation of a Habitat Conservation Plan. An Implementation Strategy is also included in this report.

Tributaries to Totten, Eld, and Little Skookum Inlets: Fecal Coliform Bacteria and Temperature Total Maximum Daily Load Water Quality Implementation Plan. November 2007. Washington State Department of Ecology. Pollution in this watershed comes from many small sources scattered throughout the watershed. Fecal coliform bacteria come from the waste of warm blooded animals like humans, livestock, pets, and wildlife. Cleanup of bacteria pollution will focus first on controllable, human-related sources. The main elements of the cleanup strategy are: investigation of pollution sources, technical assistance, outreach, incentives, and monitoring.

Perry Creek basin

Black Lake/Littlerock/Delphi Sub-area. 1981. This report provides recommendations for future residential, commercial, and industrial development. It also provides information of the area’s history, resources and characteristics.

Eld Inlet Watershed Action Plan. October 1989. TRPC. This document provides a tool to inform management decisions for reducing the pollution affecting Eld inlet. This plan provides a watershed description, water quality data, sources of non-point pollution, and an implementation strategy.

Juvenile Salmon Nearshore Project Selection Tool. 2009. Squaxin Island Tribe. This model does not contain a report, but contains spatial data. The model results show spatially which areas of the nearshore are beneficial to all juvenile salmonids, which areas are most limiting to all juvenile salmonids, and which areas should be considered for restoration and conservation.

Rate of Urbanization and Forest Harvest in Thurston County 1985-2000. January 2002. TRPC. This report studies the decrease in forest cover as well as the increase in urban cover that occurred within Thurston County during the years of 1985-2000.

Salmonid Habitat Limiting Factors Water Resource Inventory Area 14, Kennedy-Goldsborough Basin. 2002. Kuttel, M. Washington State Conservation Commission. This report assesses limiting factors for salmonid habitat in WRIA 14 and provides management recommendations.

The Relationship of Land Cover to Total and Effective Impervious Area. June 2003. TRPC. This report uses remote sensing data to determine total and effective impervious surface area for the basins of Thurston County with additional focus on Green Cove Creek and the Woodland basins.

Totten and Eld Inlets Watershed Characterization Draft Report. 2009. Thurston County GeoData Center and Resource Stewardship. This report finds that approximately four percent of the Perry Creek Sub-watershed is covered by urban land uses. Perry Creek Sub-watershed is considered in an “at-risk” condition for the delivery of water; in a “properly functioning” condition for the delivery of sediment; in an “at-risk” and “not properly functioning” condition for the delivery and routing of wood; in an “at-risk” condition for the delivery and routing of pollutants; primarily in an “at-risk” condition for the delivery and routing of heat; aquatic integrity was not ranked due to lack of data; is considered “properly functioning” and “at-risk” for habitat connectivity. Drainage Analysis Units (DAU’s) in the “at-risk” category for multiple key ecological and biological processes are assumed to provide the greatest potential to maximize environmental benefits when restored. The report found that Perry Creek Sub-watershed has primarily high and moderate ecological benefit, with only one DAU ranked as low.

Tributaries to Totten, Eld, and Little Skookum Inlets: Fecal Coliform Bacteria and Temperature Total Maximum Daily Load Water Quality Implementation Plan. November 2007. Washington State Department of Ecology. Pollution in this watershed comes from many small sources scattered throughout the watershed. Fecal coliform bacteria come from the waste of warm blooded animals like humans, livestock, pets, and wildlife. Cleanup of bacteria pollution will focus first on controllable, human-related sources. The main elements of the cleanup strategy are: investigation of pollution sources, technical assistance, outreach, incentives, and monitoring.

Pierre basin

This basin is mapped as containing a water quality sample site along marine shoreline.

Tributaries to Totten, Eld, and Little Skookum Inlets: Fecal Coliform Bacteria and Temperature Total Maximum Daily Load Water Quality Implementation Plan. November 2007. Washington State Department of Ecology. Pollution in this watershed comes from many small sources scattered throughout the watershed. Fecal coliform bacteria come from the waste of warm blooded animals like humans, livestock, pets, and wildlife. Cleanup of bacteria pollution will focus first on controllable, human-related sources. The main elements of the cleanup strategy are: investigation of pollution sources, technical assistance, outreach, incentives, and monitoring.

The Relationship of Land Cover to Total and Effective Impervious Area. June 2003. TRPC. This report uses remote sensing data to determine total and effective impervious surface area for

the basins of Thurston County with additional focus on Green Cove Creek and the Woodland basins.

Totten-Little Skookum Inlet Watershed Action Plan. October 1989. Thurston County Planning Department and Mason County Planning Department. This plan provides a tool to inform management decisions on controlling non-point pollution for the watershed. The report identifies the characteristics of the watershed, types and sources of non-point pollution, as well as goals and action recommendations for reducing pollution.

Schneider Creek basin

Schneider Creek has a water quality sample site located on it.

Rate of Urbanization and Forest Harvest in Thurston County 1985-2000. January 2002. TRPC. This report studies the decrease in forest cover as well as the increase in urban cover that occurred within Thurston County during the years of 1985-2000.

Salmonid Habitat Limiting Factors Water Resource Inventory Area 14, Kennedy-Goldsborough Basin. 2002. Kuttel, M. Washington State Conservation Commission. This report assesses limiting factors for salmonid habitat in WRIA 14 and provides management recommendations.

The Relationship of Land Cover to Total and Effective Impervious Area. June 2003. TRPC. This report uses remote sensing data to determine total and effective impervious surface area for the basins of Thurston County with additional focus on Green Cove Creek and the Woodland basins.

Totten and Eld Inlets Watershed Characterization Draft Report. 2009. Thurston County GeoData Center and Resource Stewardship. This report breaks the Schneider Creek Basin into two sub-watersheds: North Schneider sub-watershed and South Schneider sub-watershed. The report finds that approximately four percent of the North Schneider Sub-watershed is covered by urban land uses. North Schneider Sub-watershed is considered in an “at-risk” condition for the delivery of water; in an “at-risk” and “properly functioning” condition for the delivery of sediment; in a “not properly functioning” and “at-risk” condition for the delivery and routing of wood; limited data indicates that North Schneider Sub-watershed is in an “at-risk condition for the delivery and routing of pollutants; in an “at-risk” condition for the delivery and routing of heat; aquatic integrity was not ranked due to lack of data; is considered “at-risk” for habitat connectivity. The report finds that approximately two percent of the South Schneider Sub-watershed is covered by urban land uses. South Schneider Sub-watershed is considered in an “at-risk” condition for the delivery of water; in an “at-risk” condition with two DAUs in a “properly functioning” condition for the delivery of sediment; in a “not properly functioning” condition with two DAUs in an “at-risk” condition for the delivery and routing of wood; there was no data available for ranking the the delivery and routing of pollutants; in an “at-risk” condition for the delivery and routing of heat; aquatic integrity was not ranked due to lack of data; is considered “at-risk” for habitat connectivity.

Totten-Little Skookum Inlet Watershed Action Plan. October 1989. Thurston County Planning Department and Mason County Planning Department. This action plan provides a tool to inform management decisions on controlling non-point pollution for the watershed. The report identifies

the characteristics of the watershed, types and sources of non-point pollution, as well as goals and action recommendations for reducing pollution.

Tributaries to Totten, Eld, and Little Skookum Inlets: Fecal Coliform Bacteria and Temperature Total Maximum Daily Load Water Quality Improvement Report. March 2006. Washington State Department of Ecology. This TMDL study (water cleanup plan) was conducted in response to federal Clean Water Act 303(d) listings for fecal coliform bacteria in four tributaries to Totten Inlet (Pierre, Burns, Kennedy, and Schneider creeks), two tributaries to Eld Inlet (McLane and Perry creeks), and one tributary to Little Skookum Inlet (Skookum Creek). The temperature listing for Skookum Creek is also addressed. A temperature listing for Kennedy Creek is deferred pending implementation of a Habitat Conservation Plan. An Implementation Strategy is also included in this report.

Tributaries to Totten, Eld, and Little Skookum Inlets: Fecal Coliform Bacteria and Temperature Total Maximum Daily Load Water Quality Implementation Plan. November 2007. Washington State Department of Ecology. Pollution in this watershed comes from many small sources scattered throughout the watershed. Fecal coliform bacteria come from the waste of warm blooded animals like humans, livestock, pets, and wildlife. Cleanup of bacteria pollution will focus first on controllable, human-related sources. The main elements of the cleanup strategy are: investigation of pollution sources, technical assistance, outreach, incentives, and monitoring.

Squaxin Passage basin

Bulkheading in Thurston County: Impacts on Forage Fish Spawning Habitat. 2005. Herrera Environmental and Thurston Regional Planning Council. This study identifies the marine shoreline within this basin as high priority areas for restoration.

Juvenile Salmon Nearshore Project Selection Tool. 2009. Squaxin Island Tribe. This model does not contain a report, but contains spatial data. The model results show spatially which areas of the nearshore are beneficial to all juvenile salmonids, which areas are most limiting to all juvenile salmonids, and which areas should be considered for restoration and conservation.

Rate of Urbanization and Forest Harvest in Thurston County 1985-2000. January 2002. TRPC. This report studies the decrease in forest cover as well as the increase in urban cover that occurred within Thurston County during the years of 1985-2000.

The Relationship of Land Cover to Total and Effective Impervious Area. June 2003. TRPC. This report uses remote sensing data to determine total and effective impervious surface area for the basins of Thurston County with additional focus on Green Cove Creek and the Woodland basins.

Summit Lake basin

Summit Lake has three water quality gauges on it. These gauges include a rain gauge, a level gauge and a water quality sample site.

Rate of Urbanization and Forest Harvest in Thurston County 1985-2000. January 2002. TRPC. This report studies the decrease in forest cover as well as the increase in urban cover that occurred within Thurston County during the years of 1985-2000.

The Relationship of Land Cover to Total and Effective Impervious Area. June 2003. TRPC.

This report uses remote sensing data to determine total and effective impervious surface area for the basins of Thurston County with additional focus on Green Cove Creek and the Woodland basins.

Summit Lake Sub-area Plan. October 1977. Thurston County Planning Department. This plan addresses the status of the sub-area as of 1977 as well as future plans.

Totten and Eld Inlets Watershed Characterization Draft Report. 2009. Thurston County GeoData Center and Resource Stewardship. This report finds that approximately three percent of the Summit Lake Sub-watershed is covered by urban land uses. Summit Lake Sub-watershed is considered in an “at-risk” condition for the delivery of water; in an “at-risk” and “properly functioning” condition for the delivery of sediment; primarily in a “not properly functioning” condition for the delivery and routing of wood with the exceptions of three “at-risk” DAUs and one “properly functioning” DAU; pollutant condition was not ranked based on lack of data; primarily in an “at-risk” condition for the delivery and routing of heat; aquatic integrity was not ranked due to lack of data; is considered “at-risk” for habitat connectivity. Drainage Analysis Units (DAU’s) in the “at-risk” category for multiple key ecological and biological processes are assumed to provide the greatest potential to maximize environmental benefits when restored.

Totten-Little Skookum Inlet Watershed Action Plan. October 1989. Thurston County Planning Department and Mason County Planning Department. This action plan provides a tool to inform management decisions on controlling non-point pollution for the watershed. The report identifies the characteristics of the watershed, types and sources of non-point pollution, as well as goals and action recommendations for reducing pollution.

Totten Inlet basin

Burns Creek contains a water quality sample site.

Bulkheading in Thurston County: Impacts on Forage Fish Spawning Habitat. 2005. Herrera Environmental and Thurston Regional Planning Council. This study identifies the marine shoreline within this basin as high priority areas for restoration.

Juvenile Salmon Nearshore Project Selection Tool. 2009. Squaxin Island Tribe. This model does not contain a report, but contains spatial data. The model results show spatially which areas of the nearshore are beneficial to all juvenile salmonids, which areas are most limiting to all juvenile salmonids, and which areas should be considered for restoration and conservation.

Rate of Urbanization and Forest Harvest in Thurston County 1985-2000. January 2002. TRPC. This report studies the decrease in forest cover as well as the increase in urban cover that occurred within Thurston County during the years of 1985-2000.

The Relationship of Land Cover to Total and Effective Impervious Area. June 2003. TRPC.

This report uses remote sensing data to determine total and effective impervious surface area for the basins of Thurston County with additional focus on Green Cove Creek and the Woodland basins.

Totten and Eld Inlets Watershed Characterization Draft Report. 2009. Thurston County GeoData Center and Resource Stewardship. This report finds that approximately five percent of the East

Totten Sub-watershed is covered by urban land uses. East Totten Sub-watershed is considered in an “at-risk” condition for the delivery of water, with one “properly functioning” and two “not properly functioning”; in a “properly functioning” condition for the delivery of sediment with the exception of five in an “at-risk condition; primarily in a “not properly functioning” condition for the delivery and routing of wood with the exceptions of three “at-risk” DAUs; considered in an “at-risk” condition for pollutants; primarily in an “at-risk” condition for the delivery and routing of heat, with the exception of two DAUs that are considered “not-properly functioning”; aquatic integrity was not ranked due to lack of data; is considered “at-risk” and “properly functioning” for habitat connectivity, with only one DAU considered “not properly functioning” for habitat connectivity. Drainage Analysis Units (DAU’s) in the “at-risk” category for multiple key ecological and biological processes are assumed to provide the greatest potential to maximize environmental benefits when restored. East Totten has primarily high and moderate ecological benefit rank, with only five DAU’s ranked as low.

Tributaries to Totten, Eld, and Little Skookum Inlets: Fecal Coliform Bacteria and Temperature Total Maximum Daily Load Water Quality Improvement Report. March 2006. Washington State Department of Ecology. This TMDL study (water cleanup plan) was conducted in response to federal Clean Water Act 303(d) listings for fecal coliform bacteria in four tributaries to Totten Inlet (Pierre, Burns, Kennedy, and Schneider creeks), two tributaries to Eld Inlet (McLane and Perry creeks), and one tributary to Little Skookum Inlet (Skookum Creek). The temperature listing for Skookum Creek is also addressed. A temperature listing for Kennedy Creek is deferred pending implementation of a Habitat Conservation Plan. An Implementation Strategy is also included in this report.

Tributaries to Totten, Eld, and Little Skookum Inlets: Fecal Coliform Bacteria and Temperature Total Maximum Daily Load Water Quality Implementation Plan. November 2007. Washington State Department of Ecology. Pollution in this watershed comes from many small sources scattered throughout the watershed. Fecal coliform bacteria come from the waste of warm blooded animals like humans, livestock, pets, and wildlife. Cleanup of bacteria pollution will focus first on controllable, human-related sources. The main elements of the cleanup strategy are: investigation of pollution sources, technical assistance, outreach, incentives, and monitoring.

Totten-Little Skookum Inlet Watershed Action Plan. October 1989. Thurston County Planning Department and Mason County Planning Department. This action plan provides a tool to inform management decisions on controlling non-point pollution for the watershed. The report identifies the characteristics of the watershed, types and sources of non-point pollution, as well as goals and action recommendations for reducing pollution.

WRIA 23

Allen Creek basin

Scott Lake has a level gauge.

Black Lake/Littlerock/Delphi Sub-area, 1981. TRPC. This report provides recommendations for future residential, commercial, and industrial development. It also provides information of the area's history, resources and characteristics.

Rate of Urbanization and Forest Harvest in Thurston County 1985-2000. January 2002. TRPC. This report studies the decrease in forest cover as well as the increase in urban cover that occurred within Thurston County during the years of 1985-2000.

The Relationship of Land Cover to Total and Effective Impervious Area. June 2003. TRPC. This report uses remote sensing data to determine total and effective impervious surface area for the basins of Thurston County with additional focus on Green Cove Creek and the Woodland basins.

Beaver Creek basin

Beaver Creek has a water quality gauge located on it.

Black Lake/Littlerock/Delphi Sub-area, 1981. TRPC. This report provides recommendations for future residential, commercial, and industrial development. It also provides information of the area's history, resources and characteristics.

The Relationship of Land Cover to Total and Effective Impervious Area. June 2003. TRPC. This report uses remote sensing data to determine total and effective impervious surface area for the basins of Thurston County with additional focus on Green Cove Creek and the Woodland basins.

Rate of Urbanization and Forest Harvest in Thurston County 1985-2000. January 2002. TRPC. This report studies the decrease in forest cover as well as the increase in urban cover that occurred within Thurston County during the years of 1985-2000.

Black Lake basin

Black Lake/Littlerock/Delphi Sub-area, 1981. TRPC. This report provides recommendations for future residential, commercial, and industrial development. It also provides information of the area's history, resources and characteristics.

Rate of Urbanization and Forest Harvest in Thurston County 1985-2000. January 2002. TRPC. This report studies the decrease in forest cover as well as the increase in urban cover that occurred within Thurston County during the years of 1985-2000.

The Relationship of Land Cover to Total and Effective Impervious Area. June 2003. TRPC. This report uses remote sensing data to determine total and effective impervious surface area for the basins of Thurston County with additional focus on Green Cove Creek and the Woodland basins.

Black River basin

This basin contains the following water quality gauges: a water quality gauge and staff gauge are located on Bloom Ditch, a stream gauge and water quality sample site on Black River, and a rain gauge and water quality sample site on Beaver Creek.

Black Lake/Littlerock/Delphi Sub-area. 1981. TRPC. This report provides recommendations for future residential, commercial, and industrial development. It also provides information of the area's history, resources and characteristics.

Natural Hazards Mitigation Plan for the Thurston Region. 2003. Andrews, S. et al. The study notes the following on the flooding history of the Black River:

The Black River is a slow, meandering stream that flows through Thurston County for approximately 19 miles. Extending south from Black Lake, the river is lined by marshland, and the water table is perennially at or above the ground surface. Little development has occurred near the river for this reason. The preponderance of flooding along the Black River is caused by back-flow from the Chehalis River and similar recurrence intervals can be expected.

Rate of Urbanization and Forest Harvest in Thurston County 1985-2000. January 2002. TRPC. This report studies the decrease in forest cover as well as the increase in urban cover that occurred within Thurston County during the years of 1985-2000.

The Relationship of Land Cover to Total and Effective Impervious Area. June 2003. TRPC. This report uses remote sensing data to determine total and effective impervious surface area for the basins of Thurston County with additional focus on Green Cove Creek and the Woodland basins.

Bloody Run basin

Rate of Urbanization and Forest Harvest in Thurston County 1985-2000. January 2002. TRPC. This report studies the decrease in forest cover as well as the increase in urban cover that occurred within Thurston County during the years of 1985-2000.

The Relationship of Land Cover to Total and Effective Impervious Area. June 2003. TRPC. This report uses remote sensing data to determine total and effective impervious surface area for the basins of Thurston County with additional focus on Green Cove Creek and the Woodland basins.

Bloom Ditch basin

Black Lake/Littlerock/Delphi Sub-area. 1981. TRPC. This report provides recommendations for future residential, commercial, and industrial development. It also provides information of the area's history, resources and characteristics.

Rate of Urbanization and Forest Harvest in Thurston County 1985-2000. January 2002. TRPC. This report studies the decrease in forest cover as well as the increase in urban cover that occurred within Thurston County during the years of 1985-2000.

The Relationship of Land Cover to Total and Effective Impervious Area. June 2003. TRPC.

This report uses remote sensing data to determine total and effective impervious surface area for the basins of Thurston County with additional focus on Green Cove Creek and the Woodland basins.

Dempsey Creek basin

Black Lake/Littlerock/Delphi Sub-area. 1981. TRPC. This report provides recommendations for future residential, commercial, and industrial development. It also provides information of the area's history, resources and characteristics.

Rate of Urbanization and Forest Harvest in Thurston County 1985-2000. January 2002. TRPC.

This report studies the decrease in forest cover as well as the increase in urban cover that occurred within Thurston County during the years of 1985-2000.

The Relationship of Land Cover to Total and Effective Impervious Area. June 2003. TRPC.

This report uses remote sensing data to determine total and effective impervious surface area for the basins of Thurston County with additional focus on Green Cove Creek and the Woodland basins.

Frost Prairie basin

Rate of Urbanization and Forest Harvest in Thurston County 1985-2000. January 2002. TRPC.

This report studies the decrease in forest cover as well as the increase in urban cover that occurred within Thurston County during the years of 1985-2000.

The Relationship of Land Cover to Total and Effective Impervious Area. June 2003. TRPC.

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Johnson Creek basin

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Mima Creek basin

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Monroe Creek basin

Black Lake/Littlerock/Delphi Sub-area. 1981. TRPC. This report provides recommendations for future residential, commercial, and industrial development. It also provides information of the area's history, resources and characteristics.

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Porter basin

Black Lake/Littlerock/Delphi Sub-area, 1981. TRPC. This report provides recommendations for future residential, commercial, and industrial development. It also provides information of the area's history, resources and characteristics.

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Prairie Creek basin

This basin contains the following water quality gauges: stick gauge (2), rain gauge, stream gauge, and water quality gauge.

Thurston County notes flooding as a concern for this basin.

Natural Hazards Mitigation Plan for the Thurston Region. 2003. Andrews, S. et al. The study notes the following on the flooding history of the Chehalis River:

The Chehalis River extends for only 8.6 miles in Thurston County, but has an extensive floodplain, covering over eight square miles. Land use is primarily agricultural, houses are scattered sparsely over the area. Some flooding occurs nearly every year, but

damage is usually light. Historically, nuisance flooding occurs when the flow rate exceeds about 14,000 cfs. Since 1972, the river has exceeded the flow rate 48 times. The typical year will have a flood in November or December and a second flood in January or February. Moderate flooding occurs when the flow rate exceeds about 26,000 cfs. Since 1972, this has occurred 21 times. Major flooding occurs when the rate exceeds about 45,000 cfs. This has happened six times since 1972: January 1972, December 1975, November 1986, January 1990, November 1990, and February 1996. The flood of record was established in February 1996 when the flow rate reached nearly 75,000 cfs.

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Salmon Creek (Black) basin

Thurston County identifies flooding and high ground water as concerns for this basin.

Black Lake/Littlerock/Delphi Sub-area, 1981. TRPC. This report provides recommendations for future residential, commercial, and industrial development. It also provides information of the area's history, resources and characteristics.

Rate of Urbanization and Forest Harvest in Thurston County 1985-2000. January 2002. TRPC.

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The Relationship of Land Cover to Total and Effective Impervious Area. June 2003. TRPC.

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Salmon Creek Drainage Basin Conceptual Hydrologic Model. June 2001. Pacific Groundwater Group. This study describes factors influencing groundwater and surface-water flow of the Salmon Creek Drainage basin.

Salmon Creek Comprehensive Drainage Basin Plan: Phase II: Alternatives Analysis and Recommendations. June 2004. Thurston County Department of Water and Waste Management. The plan is a comprehensive analysis of flood-relief alternatives and recommendations for future actions by the City of Tumwater, Thurston County, and other entities to reduce and prevent flooding impacts to individual property owners as well as city and county roads within the basin.

Salmon Creek (Skookumchuck) basin

Thurston County identifies flooding and high ground water as concerns for this basin.

Black Lake/Littlerock/Delphi Sub-area. 1981. TRPC. This report provides recommendations for future residential, commercial, and industrial development. It also provides information of the area's history, resources and characteristics.

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Scatter Creek basin

This basin contains multiple water quality gauges. These gauges are as follows: a rain gauge on Scatter Creek near the City of Tenino, a water quality sample site on Gibson Road, a water quality sample site on Scatter Creek near Sergeant Road SW, and a water quality sample site and stream gauge on Scatter Creek near James Road SW.

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Sherman Creek basin

Black Lake/Littlerock/Delphi Sub-area. 1981. TRPC. This report provides recommendations for future residential, commercial, and industrial development. It also provides information of the area's history, resources and characteristics.

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Skookumchuck basin

A water quality sample site is located on Skookumchuck River.

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Thompson Creek (Skookumchuck) basin

Thurston County identifies low stream flow as a concern for this basin.

A USGS gauge located on the Skookumchuck River. USGS gauges provide real time data on parameters such as stream flow, reservoir, water-quality, meteorological, and groundwater sites. The website at which this data may be obtained is: <http://waterdata.usgs.gov/wa/nwis/rt>.

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Waddell Creek basin

Waddell Creek contains both a rain gauge and stream gauge.

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This report studies the decrease in forest cover as well as the increase in urban cover that occurred within Thurston County during the years of 1985-2000.

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